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The accessibility and utilization of select medical services a study of the non-institutionalized 20 to 64 year age group in Windsor, Ontario, 1982.

Dennis James. Maceyovski
University of Windsor

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THE ACCESSIBILITY AND UTILIZATION OF SELECT MEDICAL SERVICES: A STUDY OF THE NON-INSTITUTIONALIZED 20 TO 64 YEAR AGE GROUP IN WINDSOR, ONTARIO, 1982.

by

Dennis James Maceyovski

A Thesis
submitted to the
Faculty of Graduate Studies and Research
through the Department of
Geography in Partial Fulfillment
of the requirements for the Degree
of Master of Arts at
the University of Windsor

Windsor, Ontario, Canada

1983

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ABSTRACT

Prior to the last five to seven years in Canada, health related studies by Geographers have not looked past the measurement of mortality or "lack of health", which includes life expectancy, mortality rates, and age specific death rates. In more recent times, there has been a growing emphasis upon the usage of the health delivery system by consumers, looking at the need and quality of medical services.

Within the general scope of this paper, several specific objectives were established. Initially, the importance of various factors involved in the determination of the access and utilization variations in the City of Windsor were evaluated. Secondly, the significant factors identified in the study were compared to research findings arising from work carried out in similar studies. Finally, suggestions were made as to some practical applications of the model and its findings to health services planning and research.

The results indicated select patterns of health service use through demographic, cultural, household and utilization characteristics, along with perceived emotional health, reported health, and conceived morbidity.

Patient satisfaction remained favourable within the health care system even though delays occurred in the system of access, and not all patients had direct OHIP coverage for health, or private prescription coverage.

The questions raised and the implied answers brought forward leave avenues for the completion of future research. As a

useful direction of health research, the study of consumer related responses; needs and satisfaction uses a new dimension or view of the study of the health care system. The use of a questionnaire to attempt to identify individuals' thought processes (which influence, in turn, revealed behavior) is the only method to obtain consumer data. This is directly related to both the use and non-use of health services.

To Loretta

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Dennis James Maceyovski

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CHAPTER 1

INTRODUCTION

1.1 Background Statement

The World Health Organization defines health as "a state of complete physical, mental and social well-being...not merely the absence of disease or infirmity" (WHO, 1948).

Prior to the last five to seven years in Canada, health related studies by Geographers have not looked past the measurement of mortality or "lack of health", which includes life expectancy, mortality rates, and age specific death rates. These are all based on the most extreme lack of health, which is death.

In more recent times, there has been a growing emphasis upon the usage of the health delivery system by consumers, looking at the need and quality of medical services. Patients make the initial decision to contact the medical care system on their own, after which physicians heavily influence further utilization decisions (Aday and Anderson, 1978). Other studies have concluded that convenience is no longer the primary determinant of consumer travel, but rather that the quality of the service outweighs proximity (Ray, 1967; Shannon, Bashshur, and Metzner, 1969). The assumption in many studies shows that patients who are located close to sources of health care use the available resources optimally, and that people who live further from sources do not use those sources optimally, since distance serves as an impediment. This assumption has contributed to be one cause of the rising cost of care (Mayer, 1982).

According to A. Allentuck (1978), "The hospital's role and influence in society has grown because of two major factors: (1) the home and family are less central than formerly; and (2) doctors, taught to practice technological medicine, prefer to work in the cloisters where they receive their training." It is because of this that the patient is more readily willing to rush to the hospital for conditions that could be easily treated in his own home. The conclusion expressed by Allentuck is that the physician encourages overuse of the hospital, for he has become dependent on its laboratories and machinery.

The uneven distribution of medical services is of great interest to many governmental and social organizations. The maldistribution of physicians is considered to exist in an area where medical needs are not being satisfied due to the scarcity of qualified physicians and this can be both on a micro and macro scale. In considering the factors that influence the utilization of health services, even the characteristics of services and resources are not enough to account for entry or nonentry to the system. One must also consider the potential consumer's "willingness" to seek care (Mechanic, 1972). It is perhaps most meaningful to consider access in terms of whether those who need care get into the system. One must recognize, however, that patient's perceptions and practitioner's evaluations of need may differ. The factors that affect the behavioral (utilization) and subjective (satisfaction) outcomes of seeking care may be properties of the individuals themselves or of the medical care system they seek to enter.

1.2 Thesis Problem

The purpose of this study is to assess, within limitations, the access to, and utilization of, medical services in the Incorporated City of Windsor, for the non-institutionalized population 20 to 64 years of age. This group represents the most freely accessible group to medical services within our society. Other main objectives of this study are to study the similarities and differences of the population at risk through assembled characteristics within the study area, and to assemble data of overall patterns of health service use through perceived consumer satisfaction throughout the access and utilization stages.

Access is not to be equated with the use of services. Utilization is evidence that access has been achieved, but utilization rates do not permit determination of the degree to which services were not used for any number of persons. This paper will identify the primary factors associated with the access to, and utilization of health services within the City of Windsor as it relates to the study group.

Within the general scope of this paper, several specific objectives are established. Initially, the importance of various factors involved in the determination of access and utilization variations in the City of Windsor will be evaluated. Secondly, the significant factors identified in this study will be compared to research findings arising from work carried out in similar studies. Finally, suggestions will be made as to some practical applications of the model (Chapter III) and its findings to

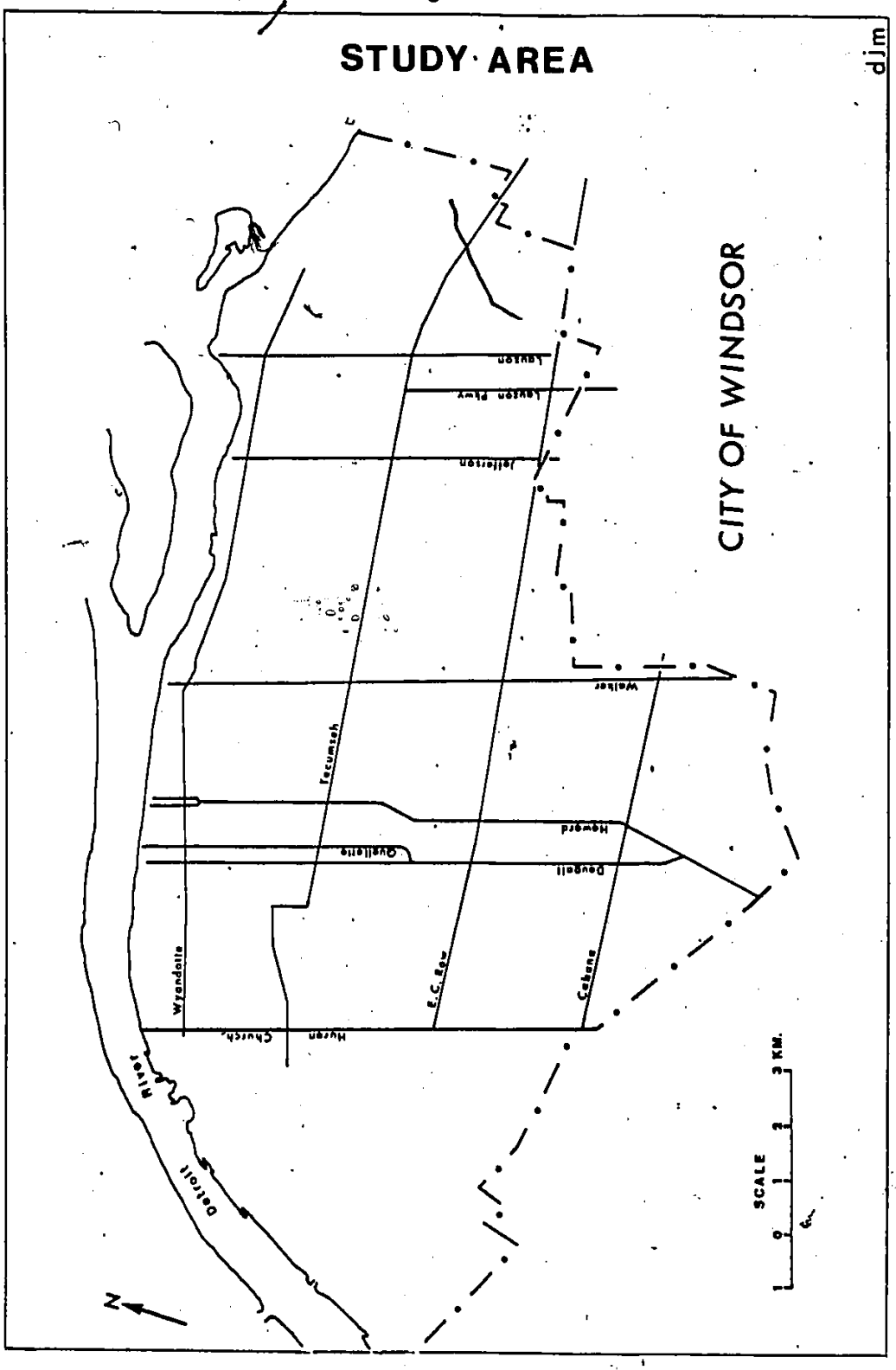
health services planning and research.

The effect of different variables on medical activities and the use of statistical analysis of consumer characteristics and activity could be valuable in two ways:

1) in providing a more sound basis for planning the location of medical service facilities;

2) for developing a general theory within the study area concerning select medical care activities.

Figure 1


STUDY AREA
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CITY OF WINDSOR
Lauzon
Lauzon Pkwy
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Walker
Tecumseh
Howard
Ouellette
Dougall
Wyandotte
E.C. Row
Cabana
Huron Church
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CHAPTER 2

REVIEW OF LITERATURE

2.1 Health Services - Historical Introduction

Society has always had three basic concepts of viewing illness; depending on factors of culture or religion, each concept changes in order and magnitude. These are:

1) martyrdom (suffering for others)
2) privileged status
3) being unworthy

Throughout history, cultural differences have heavily influenced the concept of illness and health care. In primitive cultures, a sick or injured person was left to fend for himself or die. The concept of illness was viewed to be caused by an evil spirit or a curse and those who were healthy felt no obligation to assist the weak and afflicted. Within the society of ancient Greece, one's health was believed to indicate one's personal value. Disease was an evil that rendered a person unworthy to be a part of society.

The early stages of Catholicism showed a development from a negative to a positive view of ill health. Within the old testament, illness was a punishment for one's own sins or the sins of one's family (an eye for an eye, a tooth for a tooth). The New Testament brought forward the new christian philosophy

that suffering was to be viewed as a means of grace that freed a person from the stigma of sin. One, if not sick, could also obtain grace by associating and caring for the sick. The caring for the sick thus became an obligation for the Christian. Other religions such as Buddhism, also taught compassion and caring for the sick as a means of gaining grace and redemption.

Aside from the compassion for the sick, the Church also founded hospitals and asylums to tend for the sick more readily. Hospitals were a means of putting compassion into practice. Hospitals and the medical profession grew up around the Church, especially in Europe. Here, the hospital facilities developed within monasteries and convents. Most often the members of the religious orders acted as nurses and physicians.

As hospital facilities expanded, the tight control on them by religious institutions remained. The discipline of faith among the workers in hospitals was rigidly maintained to the extent that, in most cases, the workers were never allowed to leave the confines of the hospital, this even being true for the lay people (Roemer, 1977, 21).

Prior to confederation in Canada, the growth of medical services was very slow. Most physicians were either in the military, under military jurisdiction, or within small settlements located around forts. Most people cured themselves, especially if they were not from the Upper Canada settlement. As the colonies grew, so did the number of imposters posing as "healers". People learned many healing secrets from the Indians and through common family practice. This gave them good, but limited knowledge. In 1795, the legislature of Upper Canada

enacted its first medical act to attempt to license physicians (Macnab. 1970, 29). The license was established to protect the public, but was not enforced to any great extent due to the need for but lack of, physicians outside the colonies.

By 1824, the first medical school was established in Canada at McGill University (Grove, 1969, 7). This medical school increased the growth and the establishment of the medical population in Canada to deal with the growth of colonization within this period of time.

Expansion and growth of medical services had been slow prior to confederation, except for regulatory acts within the profession. In 1867, parliament under the British-North America Act enacted powers of quarantine, the establishment and maintenance of marine hospitals, and gave to provincial legislatures jurisdiction over "the establishment, maintenance and management of hospitals, asylums, charities and eleemosynary (charitable) institutions in and for the provinces, other than marine hospitals" (Lalonde, 1974, 43). Even with the establishment of governmental powers with respect to health services, health services were minimal and most hospitals, other than military hospitals, were financed by private charities and religious organizations.

Canada was a new country. The prime importance and concerns of the government during the early years of Confederation were mainly economic. The government considered public health care and the health and social well-being of the people only in the light of economic costs to the country (Montgomery, 1977, 131).

During the period of 1871 to 1931, Canada went through its first economic depression. The Federal government could do little to help the growth of health services, since politically through the BNA Act, most power was decentralized to the provinces.

In 1875, England came forth with its Public Health Act, and by 1876, each province in Canada had a Public Health Act to correspond to that of England. This act required (1) a provincial board of health, and (2) that every municipality appoint on a permanent basis i) a Board of Health, ii) a Medical Officer of Health, and iii) a Sanitary Inspector (Montgomery, 1977, 131).

The federal government made its primary concern within the health care field the establishment of policies for those who worked on the federal level. Except for the establishment of the Public Works (Health) Act of 1899, which gave needed medical services to federal workers and those who helped to build railroads, roads etc., the federal government provided little else to promote the growth of health services.

One indication of the state of the medical system in Canada was during World War I when over half of all adults of military age were found to be physically unfit for active service. Of those who were fit, most came from rural areas. In 1919, the Department of Health was developed at the federal level to deal directly with the problems of health in Canada. Prior to this, health problems and studies were only small parts of other departments, such as the Department of Agriculture.

Following the war, the growth of health care again was slow, with the federal and provincial governments establishing acts

that were directed toward health improvement. Through the 1920's and 1930's, the federal government developed a series of share cost programs with the provinces, dealing with those in need. The Old-Age Pension Act of 1927 became a boost to workers and the needy, and with amendments throughout the years, it also helped those who were permanently handicapped.

The depression of the 1930's had a devastating effect on the health of people within Canada. With little food and insufficient shelter for many people, disease increased. In spite of their efforts, provincial health inspectors could do little to control the spread of disease due to the large number of people shifting between provinces. Following this came World War II, which brought increased employment but also rationing of food. Very little changed to increase the growth of health, however, except the control of the residual effects of the depression. The focus of the federal government was primarily on the war and war industry.

Prior to the ending of the war, the Co-operative Commonwealth Federation Party (CCF) in Saskatchewan realized that many people felt the ill effects of the war, both physically and economically. The depression had left the farmers of the west in a desperate state. This, coupled with the rising number of war widows, increased the need for better health care, and the economic means to attain it. The CCF adopted (as legislation) the idea of the first social insurance program for hospital care for a total provincial population (Roemer, 1977, 24). The postwar years also brought more federal share-cost programs with

the provinces. The most significant one of these was the 1948 National Health Grant Program, which followed the introduction of the National Health Service in England.

The federal government agreed to pay all of the provinces, with the exception of Quebec, a stated sum of money for the construction of hospitals and for other health purposes. The provinces would match this amount with their own capital. One major problem that arose was that of economics, since the rich provinces only became more wealthy while the less fortunate provinces received little. Ontario received the greatest proportion of the $900 million spent between 1948 and 1970. The National Health Grant, besides helping hospital construction, established main objectives of studying and improving the quality of health care in Canada. The objectives were:

1) The establishment of a national health survey (Canadian Sickness Survey, 1950), which would show the present quality and needs of health care in Canada.

2) The improvement of health training in Canada.

3) The establishment of a greater role for public health research for use in studies of the needs of the people and direction of the government.

4) The control of TB in Canada, through a wide scale immunization program, which was a major concern in child health care (Blomqvist, 1978, 93).

The 1950's and 1960's saw the establishment of many federal programs in health and welfare aid which helped to strengthen existing programs and build new avenues for extended health care coverage. Some of these were:

1952 - Blind Persons Act, Old Age Security Act, Old Age Assistance Act

1952-1961 - The Federal-Provincial Program of Vocational Rehabilitation

1956 - Unemployment Assistance Act

1957 - National Health Grant Program changes to help smaller provinces (realignment of funds)
- Hospital Insurance and Diagnosis Services Act

1965 - Canada Pension Plan, including provision for disabled persons

1966 - Canada Assistance Plan, designed to replace some of the above acts; this included possible full health care for those in need (not necessarily just financial need) such as the mentally and physically handicapped.

- Health Resources Fund Act, for assistance in the construction of training and research institutes and for renovations of existing facilities (500 million spent between 1966 and 1980).
- Medical Care Act

(Robertson, 1973, 83)
(Montgomery, 1977, 141-142)

After 1966, with the introduction of the Medical Care Act, and until the introduction of the second federal health survey (Canada Health Survey, 1981) there were many acts established and changes made in the quality and administering of health in Canada. Health care has been broken down into more manageable areas (biomedical vs health services) and research has taken new directions with the introduction of non-governmental research. Non-governmental research covers all walks of life, such as industry, consumer groups, university non-medical areas and other independent research. Each area offers larger, more indepth studies focusing upon special needs and areas of personal concern.

2.2 Health and Health Behavior

Seeking health care is, in part, a symbol of continuing hope. Society expects a patient to act in a certain way and these expectations constrain his behavior as a patient. Society exempts the individual from his normal social responsibilities when he is in ill health since he is not to blame for his condition. North American society also expects that the individual wants to regain his health by seeking services by those technically competent to provide them (Badgley, 1967, 18).

Consumer ignorance and sickness are important factors usually excluded from economic empirical analysis of medical care demand, and the financing of health care has become, in the highest sense, a political issue of some magnitude (Lougheed, 1957, 2).

Attitudes towards health services usually encompass people's perceptions of their own health problems and their attitudes toward obtaining health services. Personal health is closely involved with emotional factors according to health care research. Patients tend to overestimate the seriousness of their complaint, compared to the medical assessment of the same problem (Ingram, Clarke and Murdie, 1978, 55).

The spatial interaction of health services in most cases declines with distance and the hospital is relatively central to those who use it for general, non-emergency functions (Ingram, Clarke and Murdie, 1978, 55).

According to Roemer (1977), the main cultural factors that influence the use of health care are religion, ethnicity, race

and sex.

Religion teaches compassion for the sick, love for thy neighbour, and strong faith practices such as anti-abortion. As religion becomes strengthened within an area, large or small, its beliefs become law, which are deemed the morals of society. There are social biases that exist within spatial locations, such as Catholic hospitals not locating in Jewish neighbourhoods and physicians not locating in "red light" districts (Shannon, Bashshur and Metzner, 1969, 147).

Ethnicity and cultural factors have been shown to affect the sick in differing ways. The European was taught to take care of the old and that the elderly were not to be left alone in old age but rather to live with the children. Other ethnic and religious groups studied over time also react differently, such as:

A) Jewish - There is more of a willingness to consult a physician when sick and more of a willingness to adopt the sick role. This group, as studied by Badgley (1967) tended to create worry and concern related to health matters.

B) Italian - This group attempts to gain sympathy whether or not illness is present.

C) Old American - This group is disturbed by the clinical implications of pain and they are worried about the restrictive effects of illness.

D) Anglo-Saxon Protestants - Like the Jewish group, there is a willingness to consult physicians. The philosophy here is that prevention is a good method of not getting sick in the first place (Coburn, 1981, 176).

Ethnicity also seems to be a factor with some physicians in deciding where to locate (Shannon and Dever, 1974, 78). These physicians tend not to be influenced by other social factors such as higher income in other areas or better facilities in other

areas.

Many physicians are not chosen according to client perception of quality of service, but many choose on the basis of race, religion, or ethnic factors. This is particularily true with respect to the choice between white and non-white physicians.

Sex-related studies show two main areas of study. In some countries it is not acceptable for a male to go to a female physician, even in areas where sickness is high and physician care is often limited to only one person for many villages. In countries such as the U.S.S.R., 70% or more of the physicians are women. Here the patient has little choice of physician type. Within Canada, sex is a factor in the male/female utilization of health care. According to Coburn (1981), women in Canada are reported to have a higher rate of utilization of various kinds of health services from physician services because of child bearing functions, to dental services and drugs (Coburn, 1981, 343).

Within the concept of health behavior, only if it is known how well people are being treated can there be progress in the health services field. "The process of improvement, starting with the spotting of faults and leading to the planning to correct them; the setting of targets and the judgement as to whether or not they are being reached, depends ultimately upon measurement" (Robertson, 1973, 18).

Throughout studies conducted within countries having varying degrees of socialized medicine, such as Canada, some patterns of health behavior have become more common. Some of these include:

1) Close to 80% of patients using a hospital are located within 1.75 km of that facility, with the other 20% being up to 7.5 km from that facility. The incidence of use decreases with increasing distance from the hospital (Ingram, 1980, 217).

2) The use of health care services in the absence of an identified problem is higher among higher income groups, probably reflecting a greater use of preventive services than rehabilitative ones (Last, 1981, 232). This may be a reinforcing factor of 1) education and 2) social acquaintance with medical personnel.

3) Overall, about one-half of the population reports at least one health problem, and health problems increase with age (Last, 1981, 231).

4) Physicians tend to cluster together to pool resources and this cluster tends to be related to hospital and laboratory facilities (Shannon and Dever, 1974, 78).

Mass media and mass communication have created a new effect on consumer views of health and health care. With the great variety of media, people now have vast amounts of information available to them. This media comes in the form of entertainment, human interest (gossip), news (documentary) and advertising, and all have a direct or indirect influence on consumer behavior.

Mass media cut across ethnic and cultural barriers so today these patterns have been deemed less significant as a factor in the use of health services. Through entertainment media physician portrayed in many ways, both good and evil. News related stories also portray the same information, only it is from the real world where man and society interact. Media reports immediate news of new toxins, new cures, famine, and health alerts (Tancredi, 1974, 130).

Miracle cures, wonder drugs, health foods and food additives

are represented through advertising in all modes of media. People are taught the "self cure" through self-diagnosis which takes less of their time than going to see a physician. In some cases however this may also create anxiety and therefore more frequent visits to the doctor. The individual always has a moral duty to protect himself.

Indirect effects of media on health care include an emphasis on personal safety and the safety of others around you. If one is safe, fewer accidents will occur and less time will be spent in ill health (Tancredi, 1974, 142).

As society changes, so does its views on health and health care. With the vast amount of information and available services and cures, consumers are often reluctant to seek professional help except in more serious health conditions. Society has taught consumers the economics and cost of health care due to overuse and misuse, but not of proper and preventive use (Robertson, 1973, 19; Coburn, 1981, 343; Last, 1981, 231-232).

2.3 Health Services and Components

The health care delivery system is a function of two factors:

1) The extent to which specialized manpower, equipment, and facilities are required for the provision of medical services;
2) The proportion of the population which the system serves (Babson, 1972, 1).

"It is recommended that the Public Health System (PHS) be considered to include the Ministry of Health, the Community Health Services Division, support components from finance, personnel, research and communication areas, provincial organizations with direct managerial responsibilities for public health, local official health agencies, district health councils and appropriate health agencies" (Ontario Ministry of Health, 1977, 34).

The elements of the health service system as outlined by Soderstrom (1978) are made up of five major components and each of these is comprised of sub-areas (see table 1).

The potential users of the system include both the family and the community which can include a small sub-population centre, to an entire province. This exists with a series of environmental, social, political and economic decisions (Ontario: Report of the Ontario Council of Health on Health Research, 1969, 114). One major precondition for medical care is that contact be established between people needing health services and the persons providing these services. Health measurement of potential users includes: i) the generic constitution of the population; the innate ability to withstand the stresses and

strains of life, ii) the way of life; habits - eating, drinking, rest and exercise, smoking and drugs, iii) the social environment; education, affluence, poverty, competition, love and hate, and iv) the physical environment; housing, the purity of air and water (Ontario Ministry of Health, 1969, 30).

In Canada, the resources in the system include: 1) those work in health or closely related fields, almost 10 percent of the total labour force; and, 2) almost 8 percent of the Gross National Product (GNP) devoted to health (Coburn, 1981, 1).

To have a high degree of accessibility to health care, it is necessary to have medical care services distributed geographically in such a way as to permit their mass utilization. Locational studies have shown the highest degree of physician location (office space) near hospital facilities and also near major transportation routes (Berger, 1978, 354; Maceyovski, 1976, 47).

Group practice has been proven to show a higher efficiency rate than that of solo practice, with an increase of 37% more patients being attended to than by solo practice (Coburn, 1981, 2). The group practice shows better cost savings through bulk orders of supplies, more efficient record keeping, less office time spent by patients, a greater availability of specialists, and a higher efficiency of x-ray and laboratory use (Ontario Economic Council: Issues and Alternatives, 1976, 4).

The health care delivery system consists mainly of hospitals and physicians. Hospitals are owned by local communities,

Table 1

ELEMENTS OF THE HEALTH SERVICE SYSTEM

I The potential users of the system
- A. Population of Canada
- B. Residents of other countries temporarily in Canada

II. Resources in the system
- A. Manpower
- B. Land, buildings and equipment (capital)
- C. Material (food, medical and surgical supplies, etc.)

III. Institutions supplying health services (resources organized to provide health services):
- A. Institutions supplying health care directly to patients
  1. In-patient care services
     - a. Hospitals
     - b. Nursing homes
  2. Ambulatory patient care services
     - a. Practitioners' offices (doctors, dentists, optometrists, chiropractors, etc.)
     - b. Hospital emergency rooms and out-patient departments
     - c. Community health centers and clinics
     - d. Occupational health services at places of work or study
     - e. Rehabilitation centers
  3. Home care services
     - a. Victorian Order of Nurses (VON)
     - b. Meals-on-wheels
     - c. Other
- B. Institutions supplying other health services
  1. Environmental health services
  2. Occupational health services
  3. Public health services
- C. Institutions providing supportive services
  1. Pharmacies
  2. Medical, dental and optical laboratories
  3. Suppliers of orthopedic and prosthetic devices
  4. Ambulance services
  5. Non-profit organizations
     - a. Red Cross
     - b. Multiple Sclerosis Society, Canadian Arthritis and Rheumatism Society, etc.

IV. Institutions financing and regulating the system (resources organized to control the health system):
- A. Legal Framework
  1. British North America Act
  2. Federal legislation and accompanying regulations
  3. Provincial legislation and accompanying regulations
- B. Government agencies
  1. Federal
  2. Provincial
  3. Local
- C. Non-government agencies
  1. Organizations regulating health manpower
     - a. Organizations responsible for licensing and discipline
     - b. Professional and economic organizations
  2. Private insurance companies
  3. Non-profit organizations

V. Outcome
- A. The benefits of the system
  1. Health status
  2. Health research
  3. Education of health manpower
  4. Employment
- B. Cost of health services system

source:- Soderstrom, 1978, 13-14.

religious groups or individuals as compared to the United Kingdom, which has hospitals nationalized (Blomqvist, 1978, 97). According to Blomqvist (1978), it is extremely difficult for hospitals to control operating costs due to wage negotiations conducted on a province-wide scale. This is outside the influence of each individual hospital since negotiations are between the government and provincial unions. Hospitals now employ four out of five workers in the health care field and Canada is one of the heaviest per capita users of hospitals. (Coburn, 1981, 254).

The regulatory and financial body includes all levels of government that have been established with respect to health care. The government acts upon behalf of the community to establish conditions with which the health service and other services operate. Within the province of Ontario, District Health Councils decentralize health care services, and determine through the needs of the public the number of physicians and specialists that are necessary for their area. They must find or establish these practitioners and once the region has an established quota, all others (extras) must find another avenue of payment for services besides the Ontario Health Insurance Plan (OHIP).

There are major problems within the health care system in Canada. High costs in the production of health care services and the geographical misallocation of health manpower and facilities have led to a lack of services for many remote areas. The objective of a first-class system of health care cannot be

reached unless there is sufficient information and proper planning and assessment of results. Research is required to identify and develop ways of obtaining data that will increase the capacity for measuring the quality of health (Robertson, 1973, 18).

Canada equals (world wide) the best coverage to the patient of hospital and medical insurance coverage (Lalonde, 1974, 27). One problem that arises is that even though health insurance coverage is available, often the required service is not. Education on health research, both biomedical research and health care research, provides government agencies with vital information and collaborates with these agencies in the establishment of programs for optimum community health in a cost effective fashion.

2.4 Health Service Policy Formation

Lalonde (1974, 12) describes approaches of the varying factors effecting illness: i) to analyze the past and determine the extent to which various influences have contributed, over the years to changes in the nature and incidence of sickness and death, and ii) to take the present statistics on illness and death and to ascertain their underlying causes.

Roemer (1971, 1-11) states that there are four determinants of health care policy. He classifies these as historical determinants, economic levels, political policies, and other cultural influences.

Historical determinants - In early periods, the hospitals in Europe had been founded largely by the Christian church. Christianity taught pity and kindness to the poor and the sick; hospitals were a practical way of implementing this philosophy.

With the growth of industrial development both in Canada and the United States, workers became the recipients of increasing aid through employer liability laws, industrial injury compensation acts and the introduction of social insurance for health care (Roemer, 1977, 3-4)..

Economic levels - economic resources are a basic determinant of health care. More money usually means more care both for the consumer and for the country. Within the free market society more private practice can be found, along with a fee basis of payment as compared to poorer and, less democratic economies. In the latter areas, payment of services is partly by salary since

people are too poor to pay individually for needed services. Public practice is usually performed six hours per day, leaving the rest of the day to private practice with the more affluent patients.

Political policies - Policies or party platforms of parties in power have led to the current policy of health care in Canada. The CCF party in Saskatchewan (1944-1947) introduced the first social insurance program for hospital care of a total provincial population. Within ten years (1957), Canada adopted the same idea. In 1962, Saskatchewan introduced doctors' care insurance, and by 1968 it was common throughout Canada.

Cultural factors that influence policy formation are religious beliefs such as the anti-abortion views of the Catholic Church, cultural beliefs of older Europeans not to go into nursing homes but to be cared for by members of the family, along with racial and prejudicial views.

Laframboise (1973, 388) and Lalonde (1974, Chapter 7) have pointed out that there are four distinct segments to health policy: lifestyle, environment, health care organization, and basic human biology and clinical applications. Lifestyle includes decisions taken by the individual that have sufficient effect on their health, along with social values - both inherited and from society. Environmental factors are important since there is no personal choice in avoiding the environment in which an individual lives, such as the air one breathes. The health care organization includes the quantity, quality, arrangement,

Table 2

HEALTH CARE IN CANADA: FEDERAL HEALTH ROLE AND RESPONSIBILITY

Basic Roles

The federal role in health in Canada has come to include the following:

1) Quarantine and medical aspects of immigration.

2) Matters under the *Criminal Code* including consumer protection from fraud and other harm under the Food, Drugs and Cosmetics Act, and relative Acts. Aside from foods, this protection covers the quality of drugs, patent medicines, biologics, isotopes, the use of narcotics, the extent of adverse reactions to drugs, and, recently, the efficacy of drugs.

3) Matters concerning international agreements, including water and air pollution under the International Joint Commission established in 1909, and Memorandum of 1925 respecting the safety of exported shellfish.

4) Certain responsibilities for health and welfare care of war veterans, health and safety of federal employees and the inmates of penitentiaries; for sanitation in public carriers (trains and boats), in federal buildings and in National Parks.

5) Certain special aspects of health such as control of bovine tuberculosis and other work of the Department of Agriculture, maintenance of statistics by Statistics Canada, vocational training and rehabilitation including training of disabled persons and the provision of prosthetic and orthopedic services at cost.

Implied federal responsibilities include health aspects of treaty agreements and other understandings respecting the Indians and Eskimos and the establishment of national health goals and standards as well as the assessment of their achievement.

Special implied federal reponsibility in all of the above examples is for the maintenance of laboratories and hospitals, as required, and for associated research.

Since the Old Age Pension Act of 1927 there has been a steady increase in the number of "shared cost" programs, each specifically worked out between the Federal and various provincial governments.

1937 – Old Age Pension Act extended Federal-Provincial cooperation and sharing to the needy blind.

1942-44 – Discussion on Health Insurance.

1948 – National Health Grants Program.

1952 – Blind Persons Act, Old Age Security Act, Old Age Assistance Act.

1952-61 – Federal-Provincial Program of Vocational Rehabilitation.

1956 – Unemployment Assistance (BNA Act Amendment of 1940).

1957 – Hospital Insurance and Diagnostic Services Act.

1965 – Canada Pension Plan, including provision for disabled persons.

1966 – Canada Assistance Plan, designed to replace some of the above Acts; includes possible full health care for those in need (not necessarily just financial need).

1966 – Health Resources Fund Act, for assistance in buildings for training and research.

1966 – Medical Care Act.

source: Robertson, 1973, 81-82.

nature and relationship of people and resources in the field of health care services. Basic human biology and clinical applications state basic biological research underlying the whole field of health and the application of medical research findings to personal health care (Laframboise, 1973, 388).

Robertson (1973) lists the role of the federal government concerning health care (Table II). It can be seen that there are many present responsibilities that make up various acts and regulations concerning the public directly and indirectly. Health care is no longer limited to merely a concern of health agencies.

Local governments and non-governmental organizations have a particular responsibility to maintain a healthy environment. Local programs such as mass transit, safe street patterns and separation of sidewalks from traffic reduce air pollution and increase safety for the public. At the provincial level, health is a responsibility shared among almost all ministries, and not limited to the Ministry of Health. Preventive solutions to ensure the safety of the public are more often developed by engineers than physicians. Government legislation directly and indirectly affects public safety and health by raising and amending standards through feedback from 'sounding boards' for policy change. Legislation, such as highway legislation, indirectly affects consumer protection even though it is not the responsibility of the Ministry of Transportation and Communication.

In the future, prevention will be applied in the home, the

LEAF 26 OMMITTED IN PAGE NUMBERING.

consulting room, in the workplace and in the street. No profession enjoys a monopoly in its practice; no profession is devoid of the responsibility for its application (Morgan, 1981, 92-94).

In Ontario, according to Blomqvist (1978, 149), as an optimum solution to health care, we are "looking for a good quality system, low in cost, and preserving the principle that low income people should be protected against the worst economic consequences of ill health. As cuthacks have occurred within Ontario in recent years, Ontarians' satisfaction with the health care system has remained high (Timbrell, 1980).

In 1980, Ontario recorded 565 people per physician, which was much lower than the average of Canada, set at 857 people per physician. The second national health survey in Canada, completed in 1980, was again compiled to assess all walks of life in relation to health care in Canada. According to Last (1981, 230), this survey was compiled "because morbidity statistics have in previous studies been derived from health records which report a single episode rather than entire histories. It has been impossible to assess the personal burden of ill health, especially for those problems which do not reach the health care systems."

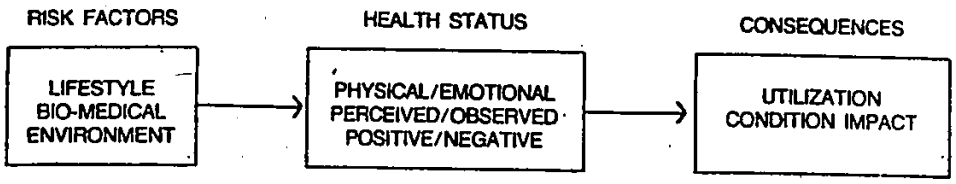
The health survey (1980) listed eight areas for data and used a basic model for health (see table III) of all areas as part of existing health policy. One unique area of this survey was the introduction of the study of emotional health, looking at psychological well-being and alcohol related problems. With the

use of health survey cases rather than clinical records, a more accurate picture will develop as to the general status of the population regarding health.

Table 3

CANADA HEALTH SURVEY:

BASIC HEALTH MODEL AND DATA BASE



DATA

LIFESTYLE

- alcohol use
- tobacco use
- physical activities
- seatbelt use
- female preventive behaviour

REPORTED HEALTH

- activity limitations
- short-term conditions
- accidents and injuries
- chronic conditions
- impairments
- hearing, vision, dental status

UTILIZATION

- professional providing care
- location care received
- reasons care not sought
- drug use
- medical devices used

BIO-MEDICAL

- immune status
- cholesterol, glucose, uric acid
- family disease history

PHYSICAL HEALTH

- cardiorespiratory fitness
- blood pressure
- per cent body fat
- anemia
- liver function
- kidney function

CONDITION IMPACT

- disability days

ENVIRONMENT

- lead, cadmium, copper, zinc

EMOTIONAL HEALTH

- psychological well-being
- alcohol-related problems

HOUSEHOLD CHARACTERISTICS

- area designation
- household membership
- dwelling characteristics

DEMOGRAPHIC CHARACTERISTICS

- social characteristics
- economic characteristics
- mobility, immigration
- life events

source: Canada: Canada Health Survey, 1981, Figure II, p.13.

2.5 Health Services Planning and Research

Unlike health, the state of death suffers from little ambiguity. There are two systems of planning and research:

1) The government acts upon the behalf of the community to establish conditions with which the health service and other systems operate.

2) The system of education and health research (both biomedical research and health care research) provides the government with vital information and collaborates with the government in the establishment of programs for optimum community health in a cost effective fashion (Ontario: Report of the Ontario Health Council on Health Research, 1969, 14).

It is not only within the health care areas that planning and research are formulated as all government and non-government areas have the responsibility for protection of the consumer.

The objective of a first class system of health care cannot be reached unless there is sufficient information for proper planning and assessment of results. Research is required to identify and develop ways of obtaining data that will increase the capacity for measuring the quality of health (Robertson, 1973, 18).

Non-governmental groups such as the Ontario Hospital Association work with the government, looking at the needs and at the changes necessary to benefit the community. They also assess performances of hospitals by preparing statistics and through voluntary peer review within the hospital structure. Hospitals

voluntarily belong to this organization.

Between 1970 and 1974, there was a reexamination of existing hospital and medical insurance legislation for the purpose of developing a new approach to health care financing (Montgomery, 1977, 145). Personal health is closely involved with emotional factors as previously explained. For this reason, the financing of health care has become, in the highest sense, a political issue of some magnitude (Lougheed, 1957, 2).

The use of surveys is an excellent way of looking at all walks of life and examining both users and non-users of the system. The 1950 and 1980 national surveys completed by the federal government provided a great amount of useful information in redefining the role of health care and finding areas of needed research. The surveys showed a major difference between a sample of the total Canadian population in which not all people surveyed entered the health care system, and between all stated health conditions of only those who had entered the system. Major findings included many proven advances resulting from basic and clinical research that were not being applied at the level of the practicing physician. Aside from this, people do not utilize physicians in their early years as a preventive method and this only increases usage in later years due to non-preventive measures. In many cases this results in high chronic care putting a heavy burden upon the tax dollar (Lalonde, 1974, 55-56).

The Ontario Council of Health relates five indicators of performance of primary care units, which have been adopted as the

variables to be measured in their plan of evaluation:

i) utilization of health services and financial performance
ii) accessibility, availability and scope of service
iii) quality of care
iv) consumer satisfaction
v) satisfaction of health professionals
(Ontario Council of Health, 1976, 8).

The five indicators have been used within almost all studies related to the health care field in Canada. One objective of health agencies is to save money by making cutbacks in spending, and therefore in services, without risking lives. One result of this is the study of private vs public health care. Blomqvist (1978, Chapter 1) raises three questions on this issue: 1) How does the system affect the society's distribution of welfare and income?; 2) Cost and quality of care - How effective is the system in producing 'good health'?; and 3) What is the responsiveness of the system to consumer's preferences and opportunity costs?

Health care is not free. The cutting of costs emphasizes personal and public finances rather than medical needs. For the individual to cut costs, he would have to pre-screen his medical needs which is an unfair burden when too many people already fail to go into the system until it is too late for simple and relatively inexpensive remedies or treatments (Ontario Federation of Labour, 1979, 7).

As Brown (1977, 134) concluded, "Rural populations received more care during the horse and buggy days when each small hamlet had its family doctor, than it does today with modern communications". The system of health care has grown from one of

simple prevention to one of complex specialization and research which now has the great task of blending all together for highest efficiency at the lowest cost.

CHAPTER 3

THEORETICAL ORIENTATION AND CONCEPTUAL FRAMEWORK

3.1 Introduction

The methodology employed in this study consists of an adopted model (figure II, Aday and Anderson, 1974, 130) with assumptions. The interrelationship of factors and hypotheses relate directly to past results and trends found in health care research.

Geographers have been too ready to accept travel time minimization for health care as an important goal. An assumption in many studies is that patients who are located close to sources of health care use the available resources optimally, and that people who live farther from sources do not use those sources optimally, since distance serves as an impediment. Distance minimization has inadvertently contributed to the costs of care (Mayer, 1982, 266).

Access to medical care has taken many forms and conceptualizations within literature. It has been equated with characteristics of population (attitudes towards medical coverage, insurance, age of population) or of the delivery system (the distribution and organization of manpower). Access can also be evaluated through outcome indicators of the individual's passage through the system, such as utilization rates or satisfaction scores. Other factors included are the availability of financial and health system resources in an area, or the

availability of services whenever and wherever the patient needs them, and that the point of entry to the system be well defined (Aday & Anderson, 1974, 209).

There are two aspects of access, one of these being socio-organizational attributes, and the other consisting of geographic concerns. Socio-organizational attributes include all those attributes of the resources, other than spatial attributes, that either facilitate or hinder the efforts of the client to obtain care. This would include such things as sex of the individual, medical care provider, specialization, etc.. . Geographic acessibility, on the other hand, includes the physical distance that must be traversed to get care. Thus, accessibility is something besides the mere existence or availability of resources at a given time.

Within the Health Delivery System, there is both entry and non-entry into the system. This all depends upon the potential consumer's willingness to seek care and his attitudes and knowledge of health care. "Before a person can or will use health services he must perceive a need for them. He must be aware of his condition and feel it warrants medical intervention; the appropriate services must be available to him (within a reasonable time or distance); the services must be acceptable to him (he must have confidence in the technical competence and "humaneness" of the facility and its provider); and he must have the ability to obtain the service (the necessary income and/or insurance and time)" (Aday and Anderson, 1981, 129).

3.2 The Model of Use and Its Components

A model presented by Aday and Anderson (1974) relates two approaches to evaluating access:

1) To identify which characteristics encourage/facilitate or discourage/hinder utilization. These characteristics are termed 'process indicators', and are used to ascertain potential utilization.

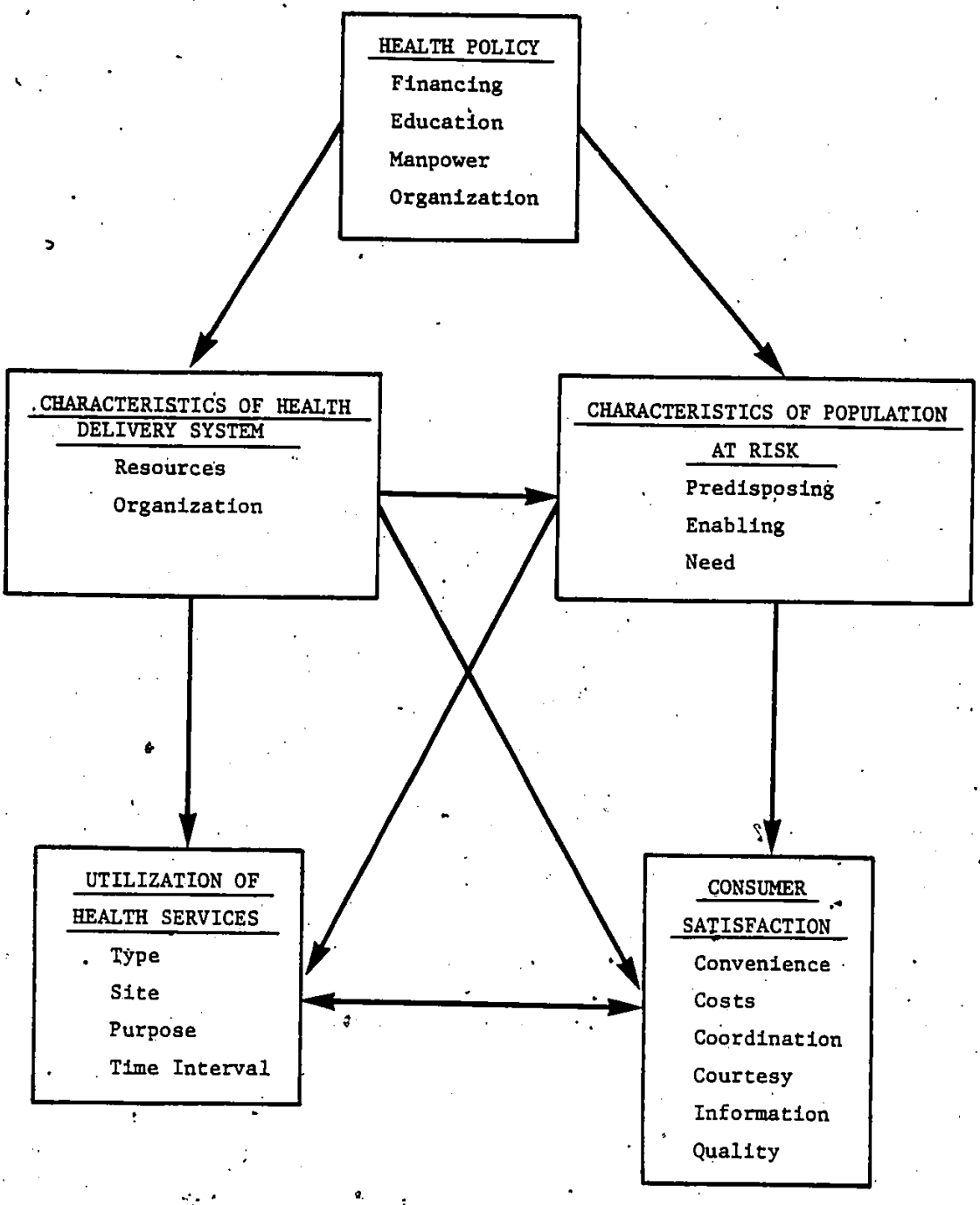
2) To evaluate the characteristics of an individual's passage through the system. This evaluation of access is termed 'outcome indicators' and are the product of actual utilization.

The outcome indicators are a function of process measures and can be used to validate the hypothesized importance of various process indicators.

Distance, one dependent variable, is measured in perceived travel time since the measurement of distance by kilometres ignores the human attributes to travel (Luhin, Drosness, Daniel and Wylie, 1965; Acton, 1973a, 1973b). Travel time is "used as a measure of effort but this omits other phenomena related to human effort, such as habitual use of a road as contrasted with unfamiliarity, and whether the trip is used to accomplish a number of things so that only part of the effort need be attributed to the receipt of medical care" (Shannon, Bashshur and Metzner, 1969, 145). Time as a factor of accessibility and utilization is measured both outside and within the health care system. This includes waiting time, appointment delay and travel time, all of which have a quantitative difference, since travel and waiting time, comprise a more direct cost than delay time which can be used for other purposes in many cases.

Figure 2

FRAMEWORK FOR THE STUDY OF ACCESS



source : ADAY & ANDERSON, 1974.

3.21 Health Policy

This is often considered in a political context. Improved access to care is an important goal of much of health policy, with financing, education, manpower, and reorganization programs being introduced with improved access in mind. Policy planners have contributed greatly to the evaluation of the health care system. As stated earlier, health policy is derived from many sources and not only within the health services field.

3.22 Characteristics of the Health Delivery System

There are two main elements within the health delivery system:

i) Resources: These are comprised of the labour and capital devoted to health care (material, personnel, structures, etc.), and the volume and distribution of medical resources in a defined area.

ii) Organization: This characteristic shows what the system does with its resources. There are two areas of organization:

a) entry - The process of gaining entry into the system.

b) structure - Characteristics of the system that determine what happens to the patient following the entry process (whom he sees, how he is treated).

As stated previously, organization looks at distance a would-be patient has to travel to receive care. Distance serves as a measure for several functions: Physical distance, time costs, and money costs for travel.

"In this case the proof of access is the use of service, not

simply the presence of a facility. Access can, accordingly, by measured by the level of use in relation to need." (Donabedian, 1972, 111)

3:23 Characteristics of the Population at Risk

There are three main elements within the population at risk:

i) Predisposing factors: These factors exist prior to the onset of illness episodes (age, sex, religion), and includes all values concerning health and illness.

ii) Enabling factors: These are the "means" individuals have available to them for the use of services (income, insurance) and also the attributes of the community in which the individual lives (region, socio-economic area, rural-urban character).

iii) Need factors: These include the level of illness, which is the most immediate cause of health service use. This is deemed necessary whether by the individual or by the health delivery system. Within the characteristics of the population at risk, the individual, rather than the system, is the unit of analysis.

"Implied in the literature on the access concept is that there should be some external validation of the effect of the characteristics of the population at risk and of the delivery system on people's entry (or non-entry) into the system. The level of pattern of the population's actual utilization of the system is one measure that may be used to test the predictive

validity of these system - and individual - based access indicators" (Aday & Anderson, 1974, 214).

3.24 Utilization of Health Care Services

There are four main elements within the utilization of health care services:

i) Type: This represents the kind of service received (hospital, physician).

ii) Site: The place where care is received (physician's office, hospital outpatient clinic, emergency ward).

iii) Purpose: The medical reason behind seeking care. These are a. preventive (before it happens), b. illness care (it is happening), or c. custodial care (it has happened).

iv) Time interval: There are three sub-areas:

a) contact - the number of times and period of time a person entered the medical care system.

b) volume - the number of contacts or revisits into the system (how often it is used).

c) continuity measures - the degree of linkage or coordination of medical services associated with particular illness or episodes.

3.25 Consumer Satisfaction

These represent attitudes within the medical system for those who have experienced a contact with it. Some of the dimensions of consumer satisfaction include convenience, costs, coordination, courtesy, information and quality.

The literature on patient satisfaction is characterized by two different approaches: 1) Satisfaction as a dependent variable of either preconceived notions of care, or, as is more often the case, as a function of utilization; and 2) satisfaction as the independent variable, capable of predicting health and illness behavior by assuming that differences in satisfaction influence access and utilization behavior.

3.3 Interrelationship of Factors and Hypotheses

3.31 (Hypothesized Relationships Within the A Priori Model)

I. HEALTH POLICY

1. Directly affects characteristics of the Health Delivery System by increasing or decreasing the supply of physicians in an area, or other medical services.

2. Programs may be directed to changing characteristics of the Population at Risk, either directly (insurance coverage, education), or through the Health Delivery System (eg. - facilities may be relocated thereby reducing the travel time to service for area residents).

Some properties of the Population at Risk (mutable or ones subject to change) are capable of being altered by Health Policy, while others (immutable or stable ones) are not.

II. DELIVERY SYSTEM

1. Directly affects utilization patterns and the satisfaction of consumers. These effects are determined by the structure itself and not necessarily mediated by the properties of potential users (eg. - do not look at consumers individually, but as a 'whole unit' in the system).

2. There are also effects on the Characteristics of the Population at Risk and thereby indirectly effect its Utilization of Services and Consumer Satisfaction with care, as through effective public health education programs.

III. THE CHARACTERISTICS OF POPULATION AT RISK

This may directly effect use and satisfaction independent of system priorities. These are the relationships reported most often in social survey research on the utilization of services by a population of potential consumers.

IV. UTILIZATION OF HEALTH SERVICES AND CONSUMER SATISFACTION

Here, a sequence can develop, and, over time, the Utilization of Services is apt to influence Consumer Satisfaction. One experiences satisfaction or dissatisfaction from repeated encounters with health services (Aday & Anderson, 1974).

3.32 Hypotheses

A number of hypotheses were formulated to test the magnitude of the relationships found within the study area, using the A Priori model. These are as follows:

1. Perceived distance (travel time) to select medical services will significantly affect the number of visits to that selected service.

2. The quality of service outweighs distance convenience as the primary determinant of consumer travel.

3. Persons who perceive themselves to be in relatively ill health are more likely to enter the health services field than those who perceive themselves to be in relatively good health.

4) Education (schooling) is directly related to the probability of making an initial visit for preventive purposes and inversely related to the probability of making an initial visit for acute care due to better self-maintenance.

5) Catagorically, woman use available services more than men.

6) Frequency of visits to various health services is directly related to consumer satisfaction.

7) There is less use of medical services by those who do not have medical care coverage, such as OHIP.

8) The use of select health services increases as age increases.

9) The hospital is relatively central to those who use it.

3.4 Analysis Strategies

All primary data was gathered by the distribution of a health utilization survey, since medical records limit themselves to those who visit physicians and not necessarily to those who need medical services. Approximately 1000 people were interviewed within the Incorporated City of Windsor (1% of the study group ages 20 to 64). These people were selected on a stratified random basis, interviewing only one person from each household selected and viewing an overall approximated distribution as studied within the City of Windsor.

All data have been coded and analysed using a) frequency distribution and b) multiple regression analysis (SPSS package program). These have been used in order to make use of a large variety of independent variables which conceivably are useful in explaining zonal variations in consumer attraction.

Physician population data will be gathered from the Canadian Medical Directory and the Windsor City Directory. Specialists not related within primary care have not been viewed (pediatrics), and specialists not directly associated with public access to medical care (anesthesiology). Optometrists and dentists will also be excluded.

Isochronal (time) lines within the population have been established to graphically show the areas of least and greatest perceived travel time in relation to number(s) of physicians within the study area.

3.5 Summary

This thesis identifies the primary factors associated with the access to, and utilization of health services within the City of Windsor as it relates to the study group and area. The effect of distance on medical activities and the use of statistical analysis of consumer characteristics and activity could by valuable in two ways:

i) in providing a more sound basis for planning the location of medical facilities.

ii) for developing a general theory concerning some of the medical care activities.

The purpose of this research was:

1) To assess, within limitations, the access to and utilization of primary medical services in the Incorporated City of Windsor, viewing the non-institutionalized population 20 to 64 years of age. This select group represents the group where access to medical services within our society may be regarded as the least constrained, both in mobility and the decision making process.

2) To assess the similarities and differences of the populatiion at risk through assembled characteristics within the study area.

3) To assess overall patterns of health service use through perceived consumer satisfaction throughout the access and utilization stages.

CHAPTER 4

METHODS

4.1 Introduction

There are, at this time, no methods of obtaining information about the use and non-use of health care by a total group exept through survey.

Information derived from hospitals and doctors' offices is insufficient when viewing health care and its use, since this information can only study those who have entered the health care system. There is no information that studies or that keeps records on those who have not, for any reason, entered this system.

To obtain information from both users and non-users of the health care system, the Essex County Health Utilization Survey was assembled and the survey was completed, using standards from previous surveys that viewed health status. This survey had been pre-tested throughout the Windsor area for possible error and bias, and changes were made before the final draft was completed (see Appendix B).

4.2 The Household Survey

4.21 Sampling Standard and Frame

The sampling standard set by the Essex County Health Utilization Survey (ECHUS) is the non-institutionalized population 20 - 64 years of age within the Incorporated City of Windsor.

The City of Windsor has been broken down into its planning districts to establish equal percentage sampling from all residential areas and also equal percentage sampling for both sexes.

The ECHUS, being a stratified random survey, was first pre-tested using 50 respondents. Each respondent completed the survey and supplied written comments and opinions about the survey and its structure.

Actual survey respondents were chosen through a lengthy process of 1) choosing a household through a random numbers process, using a random numbers table (100 x 100 matrix) and through the use of Might's Windsor City Directory (1981) which lists all households in Windsor; 2) by choosing a respondent 20 - 64 years of age in the household through a respondent selection key or matrix.

4.23 Questionnaire

The questionnaire (Appendix B) has been designed to be used for more than one study and therefore was larger than necessary for the purposes of this research. The ECHUS can be divided into sub-categories for better identification:

1) Demographic Characteristics

   - age, economic (employment, income), mobility, migration, life events, education, social characteristics

2) Cultural Characteristics

   - culture, religion, sex, marital status, language in home

3) Emotional Health and Perception

   - psychological well-being

4) Household Characteristics

   - area designation

5) Reported Health and Conceived Morbidity

   - activity limitations, short-term conditions, accidents or injuries, chronic conditions, conditions still present

6) Utilization Characteristics

   - professional providing care, location care is received, reason care not sought, drug use, medical services used

Demographic and parts of other characteristic data can be represented through established data such as Statistics Canada for local areas, and local data gathered by local agencies. All other data represents perceived reaction and response through the eyes of those surveyed and not of medical opinion.

The greatest proportion of the time used in answering the ECHUS is spent marking the answer that best expresses one's

feelings, with only limited written answers. The ECHUS was designed and presented as being professional, easy to read and complete, and it had stressed confidentiality of the respondent and his/her answers. All questionnaires were presented with a cover letter, identifying the reasons for the survey, and all were presented with an envelope to ensure confidentiality between the researcher and the respondent.

4.24 Fieldwork Procedures and Interview Process

The final form of the questionnaire, once corrected and approved, was printed and each individually coded for mapping purposes.

The surveys were then divided among Windsor High School districts and each Public High School Principal and senior geography teacher was contacted to establish the use of senior level geography students in the interviewing exercise.

The researcher, once invited into the school, spent one classroom period instructing the students on minor interviewing techniques of introducing the survey and its importance for research purposes. Each survey came with special instructions on who was to fill it out (through the respondent selection key), and that the survey was to be placed back in the envelope once completed. The survey was left with the respondent for two days and then picked up in the sealed envelope.

In the event that the survey was refused, an alternate home was pre-selected along with a respondent. If again refused, this survey was deleted.

Within school areas where the researcher was not invited, the researcher completed these areas and all areas or respondents in school areas not completed by students. Callbacks were carried out every two days after the due day for a period of four days (six days total), and then discontinued. The interviewer was then instructed to go to the alternate household with a new survey. The total interviewing process, once started in an area, took no more than two weeks.

The researcher went back into the highschools, as previously arranged with the instructor, to complete a lesson on interviewing procedures and the problems/rewards encountered by the students.

4.3 Coding and Analytical Procedures

Of the 1000 surveys distributed, 315 were quoted (see Map 2), with many extracted due to omissions, human error, and refusals by respondents. The data was coded and verified prior to being placed into the computer for analysis. All data was coded with all answers of equal weight. Some of the answers had been grouped together due to ambiguity in responses and response length.

The analytical programs were extracted from the SPSS Package manual and the SYMAP manual, using the Wylbur computer terminal to save card punching and computer time. Wylbur represents a computer terminal facility within the Geography Department, University of Windsor which is connected to the main computer facility. This eliminates key punching and hastens editing of programs for better utilization of computer time. The SPSS Package includes frequency distribution tables along with conventional and stepwise multiple regression procedures. These techniques reveal the relationship between utilization patterns and socio-economic and physical variables that affect them.

The SYMAP package replaces conventional mapping of data, with computer representation through the printout of maps, and with data related to each respondent co-ordinate located on the printed map.

Public information not gathered from the computer was gathered from Statistics Canada, City of Windsor Planning Department and the Essex County Medical Society. This data was

used to establish a background into the study area for which the computer data shall be utilized.

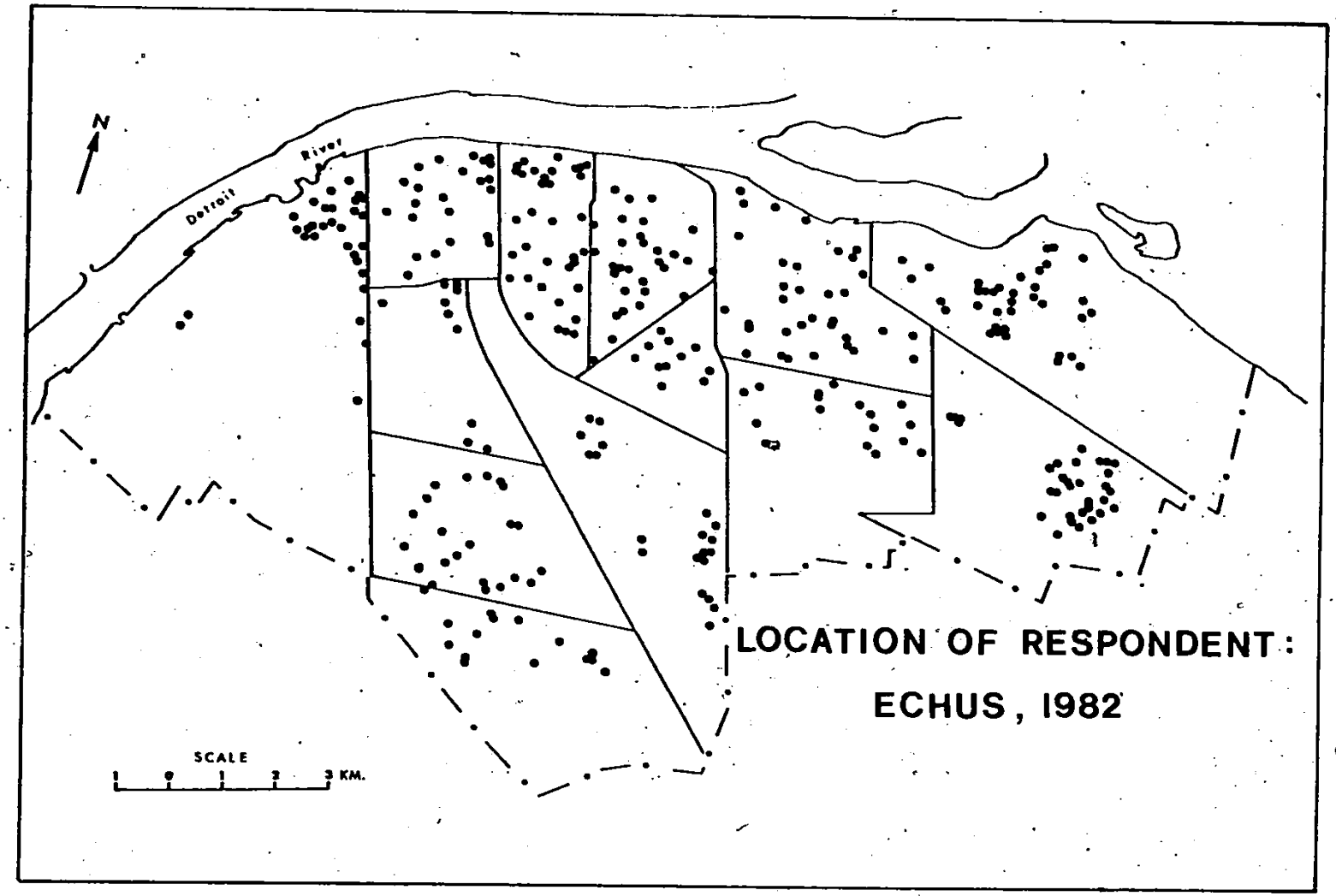


Figure 3

source: Author, ECHUS, 1982.

4.4 Summary

The sampling process is lengthy and time consuming, yet is the most efficient and accurate in explaining present phenomena. Within the health care field where much data is unobtainable or unaccessible, the survey represents the only method of data collection for research purposes.

Sampling and non-sampling errors can occur and all possibilities were explored periodically throughout the interview process and the analysis of data to eliminate these errors.

The stratified random sample requires the least number of cases to be surveyed due to the homogeneity of the sampling unit used (Backstrom & Hursh, 1963, 26-27). The usable surveys of the ECHUS represent a 31.5 percent response rate of those surveyed.

CHAPTER 5

CHARACTERISTICS OF THE HEALTH DELIVERY SYSTEM

5.1 Introduction

The health delivery system can be divided into two main resources: the first comprises manpower, facilities and equipment; and the second is the population that is served.

Manpower, facilities and equipment are indicated first as a resource factor, which is comprised of the labour, capital and material devoted to health care, and the volume and distribution of medical resources in a defined area. A second factor, organization, shows what the system does with its resources. This includes how the system is maintained(policy, financing), how the patient or recipient enters the system, and what happens to the patient following entry into the system.

The population that is served is defined within the geographic and demographic descriptors of the study area. These descriptors are established from past available information, which form a base on which to assess newly collected information.

5.2 Resource factors

In 1982, the established number of physicians practicing within the City of Windsor was estimated at 310 (OHIP, 1982). This number included both those associated with the Ontario Health Insurance Plan (OHIP) and those who billed the public directly on a fee for service basis. The physician population can be broken down into twenty separate classifications (table 4), with General Practice representing 47.7 percent of the total physician population. The total population per physician ratio for Windsor is 620, compared to 560 for Ontario and 850 for Canada. Along with the physician population, the City of Windsor houses approximately 107 dentists and oral specialists, 19 chiropractors, and 21 optometrists and eye specialists.

Medical practitioners within the City of Windsor tend to cluster into areas close to hospital and laboratory facilities, with approximately 85 percent locating no further than two kilometers away from a hospital facility. The locational trend of physicians within the city showed in the last decade a gradual relocation of dispersed, single general practice, to more centralized group practice, clustering around hospital and laboratory facilities (author, 1979).

Recently, physicians have started to move into population growth areas, such as the east side of Windsor (Forest Glade), following the addition of newer medical office facilities within these areas.

There are four main hospital facilities that are used for

Table 4

DOCTORS BY SPECIALTY AND OTHER MEDICAL CARE TYPE, WINDSOR, 1982

PHYSICIAN SPECIALTY	NUMBER	
GP	148	
GENERAL SURGERY	32	
OBSTETRICS AND GYNAECOLOGY	16	
INTERNAL MEDICINE	25	
OPHTHALMOLOGY	10	
PLASTIC SURGERY	4	
UROLOGY	6	
PAEDIATRICS	10	
RADIOLOGY-DIAGNOSTIC	15	
RADIOLOGY-THERAPEUTIC	1	
PATHOLOGY	4	
PSYCHIATRY	9	
ORTHOPAEDIC SURGERY	9	
ANAESTHESIA	6	
NEUROLOGY	1	
OTOLARYNGOLOGY	7	
NEUROSURGERY	1	
PHYSICAL MEDICINE	2	
RESPIRATORY DISEASES	1	
DERMATOLOGY	3	
TOTAL	310	
OTHER THAN PHYSICIAN		
OPTOMETRIST	18	incl. eye specialists
CHIROPRACTORS	21	
DENTISTS	107	incl. oral specialists

source: Canadian Medical Directory, 1982
OHIP, 1982.

Table 5

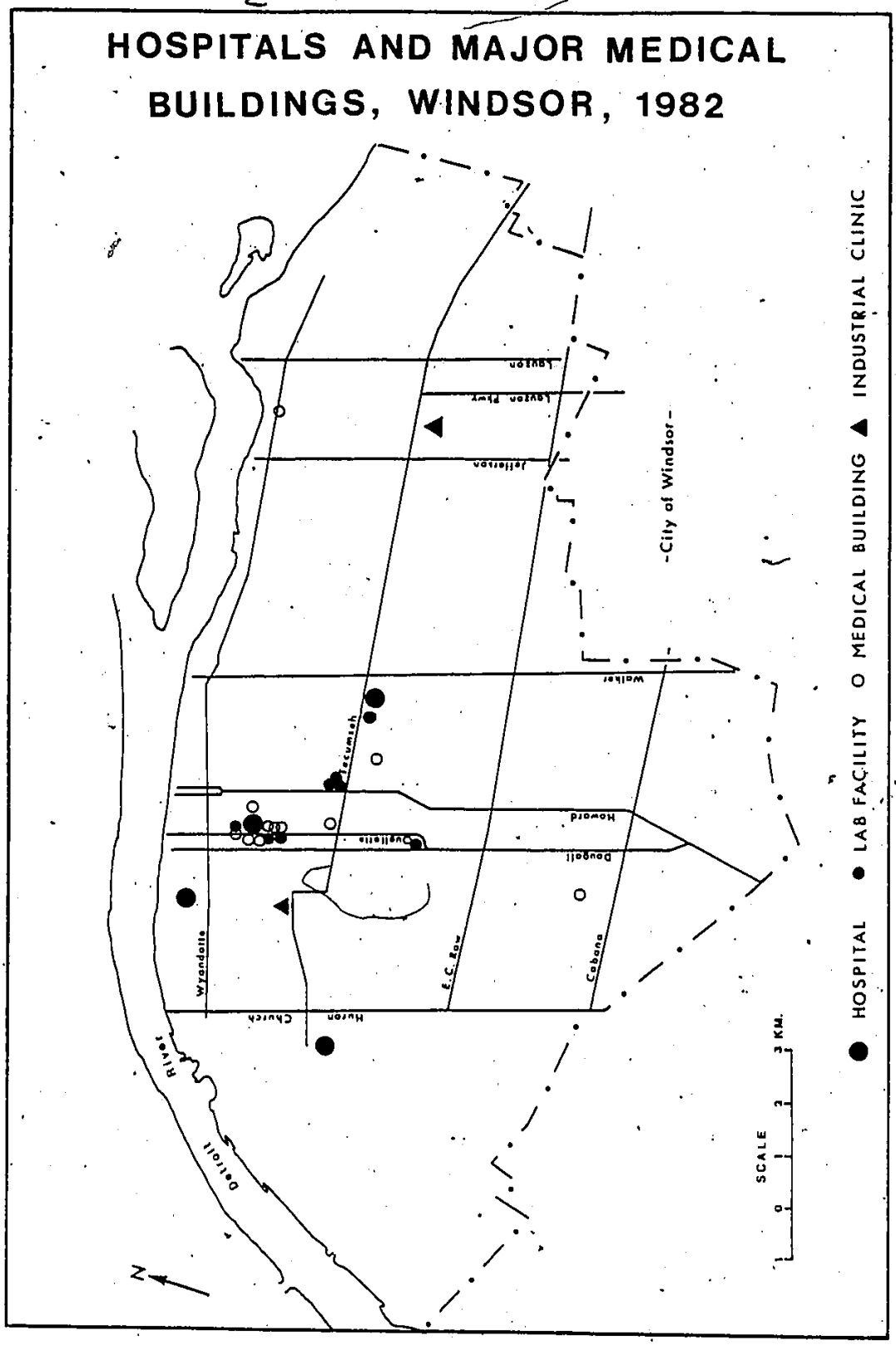
HOSPITAL RESOURCES

WINDSOR, 1982

HOSPITAL → / BED TYPE	GRACE	HOTEL DIEU	METROPOLITAN GENERAL	WINDSOR WESTERN	TOTAL
Med.&Surgery	195	281	204	199	879
Maternity	50	-	36		86
I.C.U.	8	11	11	6	36
C.C.U.	16	6	-	4	26
Chronic Care	26	60	116	76	278
Pediatrics	-	60	25	-	85
Psychiatry	-	35	27	54	116
Burn Unit	-	-	6	-	6
Detox.	-	-	-	20	20
Rehabilitation	-	-	-	36	36
TOTAL (1982)	295	453	425	395	1568
TOTAL (1981)	295	453	439	395	1582
Average stay, 1982 (days)	9.45	9.9	8.3	7.8	average 8.86
Average stay, 1981	9.1	9.1	7.9	8.9	8.75
Total Admissions 1982 (41314)	8882	12486	11101	8845	10328.5
Total Admissions 1981 (44628)	9200	14845	10996	9587	11157.0

source: Canadian Hospital Directory, 1982.

Figure 4



source: City of Windsor, 1982.

primary care, with satellite facilities used for chronic care of the elderly, along with a regional childrens centre. The satellite facilities are not used for primary care and are not included within this study.

The number of beds within the four hospitals totalled 1568 in 1982, with a loss of fourteen beds from the previous year. A breakdown of the use of beds (table 5) shows hospital bed use for primary care is reduced to 1290 beds since 278 beds are assigned for chronic care. Compared to the 1981 figure, the average stay in Windsor hospitals has increased from 8.75 days to 8.86 days, with the total number of admissions reduced by 3314 persons.

Laboratory facilities within the City of Windsor number only about eight, not including the hospital laboratory facilities (figure 4) which are relatively central to both the hospitals and the approximately seventeen medical buildings (author, 1979).

5.3 Organizational Factors

The organization of health care services have three distinct characteristics which show what the system does with its resources. These are: 1) the role of the controlling agencies; 2) system points of entry; and 3) the system structure.

5.3.1 General Role of Controlling Agencies

In Canada as a whole, over seven billion dollars are spent each year on the personal health care system. This includes dental care and other services of such other professions as optometrists and chiropractors, and which is mainly oriented to treating existing illness (Lalonde, 1978, 12). Canada, viewing worldwide standards equils the best in coverage to the patient of hospital and primary medical insurance coverage, according to Lalonde, who also states that there are a "number of difficult problems facing those with responsibilities for providing health care services". These include: costs exceeding the rate of economic growth; too much emphasis on hospital construction and not on other health care facilities and functions; maldistribution of needed health care in remote areas; dependency on other countries for physician supply; lack of uniform methods of record keeping and placement; and, conflicting goals in the health care system between the federal and provincial governments, especially within the cost sharing agreements.

The federal health role (table 2, p.26) basically is concerned with the welfare of all Canadians, through and under the (1) Immigration Act, (2) Criminal Code, (3) International

Joint Commission (1909, 1925), with the care of veterans, care of federal employees, care of inmates of federal penitentiaries, work of the Department of Agriculture, maintenance of statistics by Statistics Canada, and rehabilitation programs of disabled persons. Implied responsibilities include Indians and Eskimos, and the establishment of national health goals and standards, and assessment of their achievment.

The provincial health role shows the primary responsibility for health measures to prevent disease and to improve health standards of the community. Provincial activities include preventive health services; hospital servives; mental health services; and the special treatment for the chronically ill and disabled. All these are administered by the Ontario Ministry of Health, through official agencies in co-operation with the hospitals and voluntary health organizations and the teaching and research institutions. The federal government cannot lead in these matters but it can, according to Robertson (1971, 89) influence the provinces by indirect means, such as fiscal policy.

The direct costs of care (resources) are primarily the responsibility of the province, even though there is a series of cost-share programs set up between the federal and provincial governments. There are five principles governing the federal transfer of funds. These are: 1) access to the system must exist; 2) a wide range of services must be

offered; 3) the coverage for all eligable Canadian citizens must be guaranteed; 4) those travelling outside Canada must remain insured; and 5) the health insurance system must be publically (opposed to privately) administered.

Hospitals have been one of the largest costs per capita of the provincial government, and they have also been overcrowded due to their misuse for non-essential care. Because of the lack of proper facilities to take the place of hospitals, hospitals are overused for simple preventive and diagnostic measures rather than their intended use — which is for more corrective care. Lalonde, 1974, states at that time patients were being put on surgical "waiting lists" due to the lack of funds and not enough manpower. The need for other facilities in place of hospitals has lead to the creation of diagnostic facilities to relieve admission and laboratory time in hospitals, and ambulatory care for simple observation when patients are not to be kept in a hospital, as in the case of: a lab test to be repeated; a drug to be administered; or rehabilitation continued.

With the rise of group practice and community clinics, costs are kept down due to more use of staff and bulk purchases, while education of the physician increases along with more convenience for the patient.

Within the City of Windsor, repetition has meant the combining of facilities and rearranging special needs in hospitals to cut high overhead costs. These include maternity care limited to two hospitals, along with pediatric care, while highly specialized services have been limited to only

one hospital (burn unit, detoxification centre, rehabilitation centre). Due to rising costs, the city has lost fourteen hospital beds since 1981.

5.3.2 System Points of Entry

The health care system is the system in which personal health care is provided. Entry into the system takes on many forms and all who enter the health care system do so in a different manner. The variables affecting points of entry include distance, transportation, time and accessibility of health services and facilities.

Distance to the facility a would-be patient has to travel is one of the main variables affecting entry points within the system. This distance includes physical distance, costs of time and money costs, along with patient awareness of the facility. Within the City of Windsor, there has been more a centralization rather than a decentralization of primary care physicians. This centralization is associated with physician location closer to hospital facilities (author, 1979). Between 1971 and 1981 the growth of the City of Windsor has reversed, showing an exodus from the west end of the city to the east end, and an overall exodus out of the city. The population shift from west to east was not followed by a growth or redistribution of medical facilities but rather only a tighter concentration of single practice to group practice and single facility to group facility into the core of the city (author, 1979).

Transportation can affect the health care system in both

a good and bad manner since good transport (routes and mode) means higher ease of access. This will affect consumer satisfaction upon entry and subsequent entries into the system.

Time is a factor of both access and utilization and takes many forms as a source of entry into the system. Travel time as well as waiting time and appointment delay act as important determinants to the use of services. Non-accessibility has an inverse effect on health status especially when related to office hours, which produce the actual availability times of hospitals and physicians. It is common practice to go to a hospital emergency area during nights and weekends because of the lack of knowledge of the office hours and emergency status of non-hospital related physicians.

The historical development of the City of Windsor has created travel time problems for the health care system. The city was established from the amalgomation of smaller centres, with street patterns running more north-south due to historical French settlement patterns. East-west access has always been a problem within the city and there are few main routes, therefore most of these are frequently congested. The city is also bordered by water to the north and west, an airport to the south and heavy industry to the west, leaving all suburban and new growth almost limited to the east. Another issue is a larger than normal train access through all areas of the city. Windsor acts as both a manufacturing centre, receiving and shipping goods to and from the city, and

also acts as a break of bulk point for goods to and from the U.S.A., via rail. Congestion of rail services at road crossing points thus cause a larger than normal delay in waiting time as most crossings are at grade level.

5.3.3 System Structure

The system structure consists of the characteristics of the system that determine what happens to the patient following the entry process. This structure depends, to the greatest degree upon the individual to establish a series of entry points into the system.

"What people report as their regular source of care influences whether or not they seek care, and because an individuals' regular source of care serves as a port of entry to the entire health delivery system, once the decision to seek care is made, the regular source largely determines the type, site, volume, and continuity of care the patient receives. A regular source of care will also minimize the delay between the time a patient feels he needs care, the time he initiates action to secure that care and the time he actually receives it" (Fiedler, 1981, 134).

One of the most critical defects of the emergency room system of primary health care concerns itself with the continuity of care. Bergen (1974) explains that "people without a regular source of care and/or who are unable to receive care when it is needed because of service hour schedules, are more likely to see a number of different providers, and/or to visit a hospital emergency room — even

for non-emergency primary care". The results are an inadequate patient follow-up and inadequate professional communications concerning the patients condition.

The fewer the health services available to the patient and the more specialized the provider is, will result in fewer cases that can be handled and therefore will be handled. This, along with the incomprehension of the population about the basic structure of the health system available to them may cause an inadequate use of the system structure and result in fewer future entries into the health care system. The more sources a patient has available to get a medical problem resolved (within the health care system), fewer visits will occur at each source. The more fragmented and uncoordinated medical care is, the less accessible it is likely to be perceived and, therefore, the less likely to be used (Aday and Anderson, 1975, 186).

Organizational factors in the health care system have to be coordinated to bring the widest range of information and encouragement to the patient, yet at the same time must not encourage misuse of the services and facilities available.

5.4 Geographic and Demographic Descriptors of the Study Area and Sub-Areas

The City of Windsor is comprised of approximately 120 square kilometers of land area which is bordered to the north and west by water and partially to the south by an airport (relating to noise factors and restrictions on housing and housing regulations). Potential growth, within the past ten years has been toward the east, showing an exodus from the west end of the city, and overall a population decline within the city. Population decline within the city has meant population growth throughout Essex County, but overall population has declined out of the region.

Census data shows the 1976 population of the census metropolitan area (CMA) of Windsor to be 247,582 persons, while the 1981 data shows a decline to 246,110 persons. The City of Windsor shows a greater rate of decline, from 196,526 persons in 1976 to 192,083 persons in 1981.

Overall patterns of growth and decline within the City of Windsor are stated more fully when the city is divided into planning areas, showing the percentage of total population allocated to each planning area (table 6) in 1982. Through a ten year period (1971-1981) population statistics have shown over 10,000 persons leaving the city. Between 1971 and 1976 the prominent population shift between sub-areas was to the east, with major growth areas being: Sandwich East; West Riverside; and South Pillette (over 10,000 persons). Since 1976, Sandwich East and East Riverside have been the only areas to grow, due to a shift in population from neighboring areas. Sandwich East

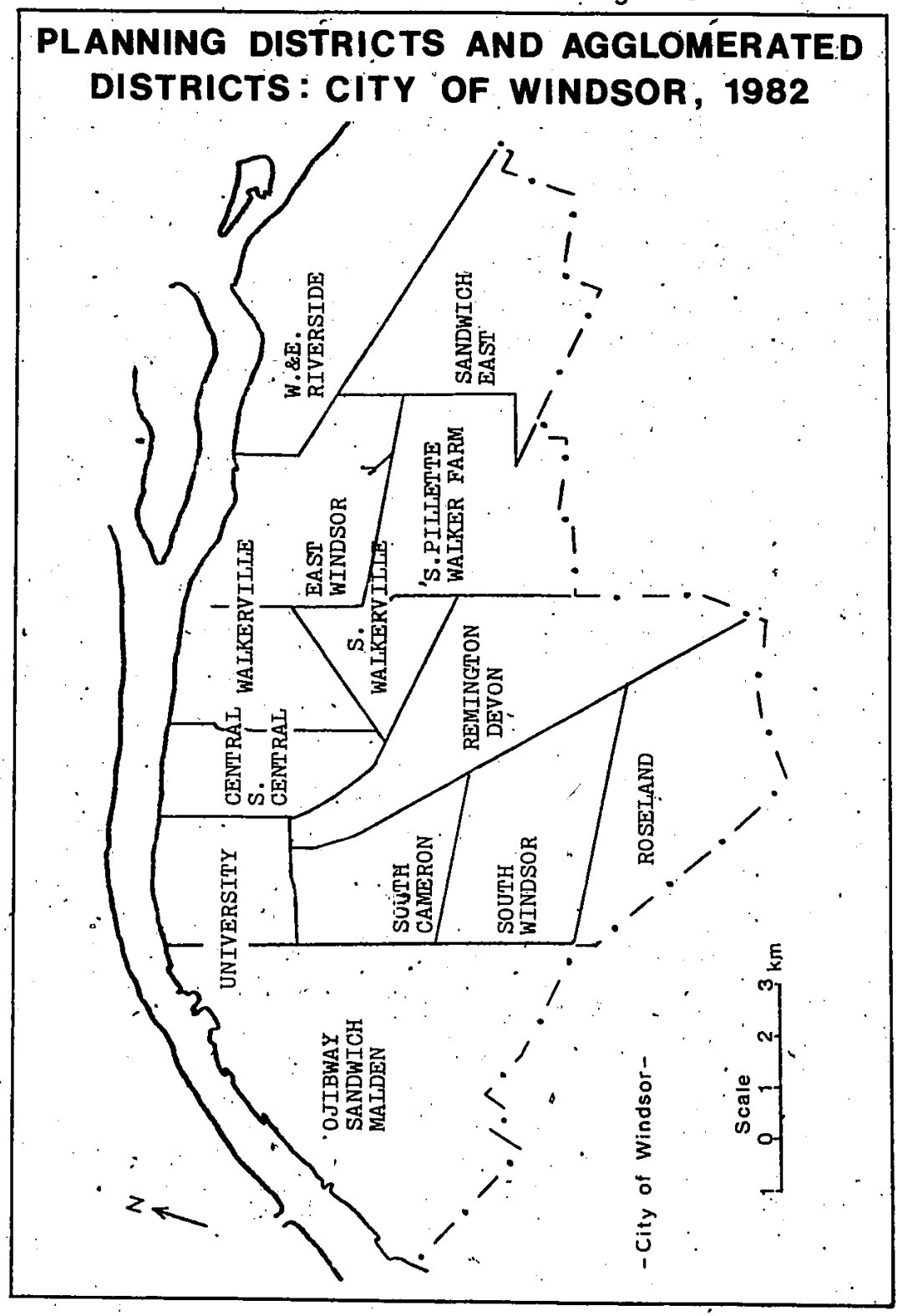
recorded an increase of over 9,000 persons with the development of the Forest Glade community and subsequent expansion.

Population density has changed relative to population distribution within the city. A 1981 population distribution map (figure 6) shows many open areas between residential settlements, especially in the western areas of the city. With the high concentration of industry and rail lines, some areas of vacant land have become undesireable for residential development. The highest density patterns are within the central city, including (highest to lowest) Walkerville, Central and South Central, University, East Windsor, and South Walkerville. These five high density areas include 48.29 percent of the total Windsor population (table 6). All other areas show a lower than city average population density per acre.

Viewing population by age group and sex (table 7) shows overall, more females within the City of Windsor, especially for the 65 and over age group. Males are more abundant within the 0 to 19 age groups.

The study group, ages 20 to 64 represents 57.3 percent of the total population, or 110,000 persons. A high proportion of the 25-34 year age group live in the east section of the city, especially within the Riverside, Sandwich East, and East Windsor area. This represents 64 percent of this total age group. There is more of an even distribution of all other study groups, except the 20-24 year age group, which locates more within the core of the city, possibly due to this being students associated with the university, located in the west end of the city (University planning area).

Figure 5



source: City of Windsor Planning Department, Author, 1982.

Table 6

POPULATION AND DENSITY BY PLANNING AREA, WINDSOR, 1982

	Planning Area	Population	Population per acre	Population % total
1	Ojibway Sandwich Malden	16221	3.05	8.44
2	University	16624	13.50	8.65
3	S. Cameron	4594	3.46	2.39
4	S. Windsor	16201	5.77	8.43
5	Roseland	6784	2.86	3.53
6	Central S. Central	19738	15.57	10.27
7	Walkerville	23870	18.29	12.42
8	S. Walkerville	7341	8.81	3.82
9	Remington Devon	7283	2.38	3.79
10	E. Windsor	25234	12.27	13.13
11	S. Pillette Walker Farm	11493	4.76	5.98
12	W. Riverside E. Riverside	24331	6.53	12.66
13	Sandwich East	12472	4.50	6.49
	TOTAL	192185		100.00
	Average Density		6.89	

source: Statistics Canada, 1981
City of Windsor, 1982
Author, 1982.

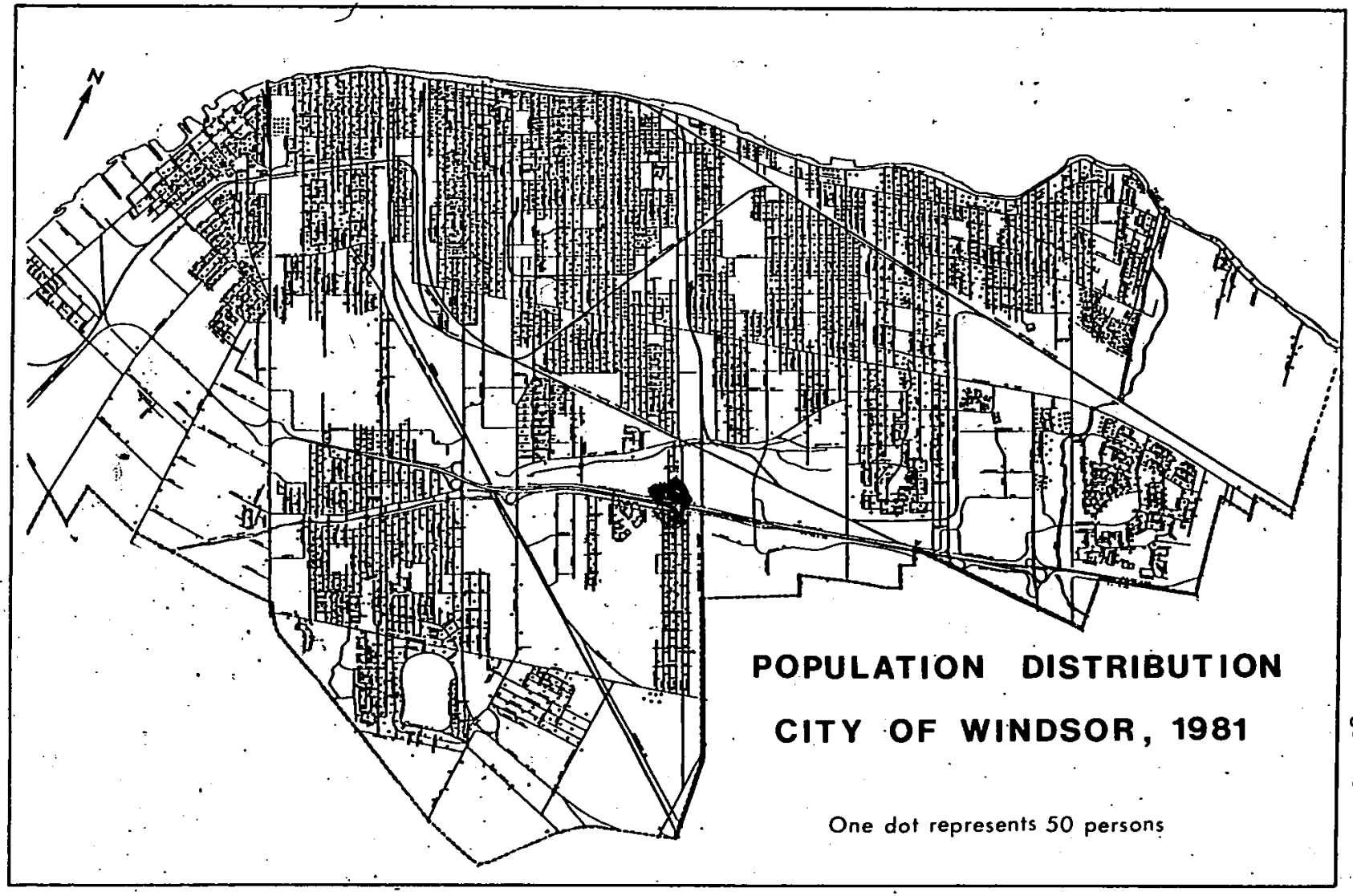


Figure 6

source: Ransome & Devasagayam, 1981

Table 7

POPULATION BY AGE GROUP AND SEX, WINDSOR, 1982

AGE GROUP°	F	M	TOTAL	%TOTAL
0-4	6080	6453	12513	6.5
5-9	6690	6770	13460	7.0
10-14	7370	7575	14945	7.8
15-19	8870	9145	18015	9.4
20-24	8975	8905	17880	9.3
25-34	15335	14840	30175	15.7
35-44	10680	10515	21195	11.0
45-54	10595	10380	21175	11.0
55-64	10650	9125	19775	10.3
65-69	4020	3125	7235	3.7
70+	9975	6040	16015	8.3
TOTAL	99240	92945	192185	100.0

AGE GROUP°	F	M	TOTAL	%TOTAL
0-19	29010	29925	58935	30.7
20-64	56235	53765	110000	57.3
65+	13995	9255	23250	12.0
TOTAL	99240	92945	192185	100.0
PER CENT	51.6	48.4		

o - actual population

source: Statistics Canada, 1981;
City of Windsor, 1982,
Author, 1982.

Table 8

POPULATION BY MOTHER TONGUE, WINDSOR, 1982

LANGUAGE SPOKEN	TOTAL PEOPLE	% OF TOTAL
English	142520	74.16
French	10665	5.55
Italian	12050	6.27
German	3525	1.83
Ukranian	2780	1.45
Hungarian	1865	.97
Other	18780	9.77
TOTAL	192185	100.00

Table 9

POPULATION BY MARITAL STATUS, WINDSOR, 1982

MARITAL STATUS	TOTAL PEOPLE	% OF TOTAL
Single	80985	42.14
Married	92820	48.30
Widowed	12910	6.72
Divorced	5470	2.84
TOTAL	192185	100.00

source (table 8&9): Statistics Canada, 1981,
City of Windsor, 1982,
Author, 1982.

Almost 75 percent of the Windsor population states English is their mother tongue, with Italian and French the next two dominating languages spoken within the city, with 6.27 and 5.55 percent respectively.

The marital status of the population shows 48.3 percent of the population married, with 42.14 percent single. Widowed and Divorced statistics represent the other 9.56 percent of the population. One statistic not quoted by Statistics Canada is the approximately 2.5 percent of the population that is separated, which would reflect a lower actual marriage rate.

5.5 Summary

The assessment of the entry into the health care system of an individual or institution is complicated, and involves a number of different people and groups (for example — Government Hospitals, Hospital Associations, Hospital Accredition Council, Doctors) (Robertson,1971,26).

An important factor in the promotion of health is the ease and the quality of contact between the individual and the health services. The resources of the health system have been established through historical control and development by both the federal and provincial governments, and by private groups.

System point of entry and system structure are initially established by the health resources but are not controlled in their use. The patient decides to enter the system and to use or misuse the system provided. Human attitudes and assessment controls much of the future use of the resources.

The study area itself is unique both in mass and composition. Its homogeniety and characteristics play an important role upon the factors of use of the resources. The geographic and demographic composition within the study area, as well as the resources or perception of the resources could cause problems with entry and subsequent system structure by the patient.

CHAPTER 6

CHARACTERISTICS OF THE POPULATION AT RISK

6.1 Introduction

One half of the population in Canada reports at least one medical problem (Lalonde, 1978). Lalonde (1978,38) also reports that "for every statistical average reflecting a condition in the health field, or in any social field for that matter, there are a number of "populations" which contribute very unevenly to the average". The population at risk is identified as the population that contributes to a particular incident or cause of an incident, with risk being a statistical term expressed in percentages or 'odds'.

Access to health services is measured by need, and not the availability of service. It takes into account whether or not the medical services are actually needed or not. Access affects utilization and therefore utilization will affect access. There are two components of access: initiation; and continuation, and various barriers to access, which include financial, psychological, information, social, organizational, spatial, and temporal. Within the characteristics of the population at risk, the individual, rather than the system is the unit of analysis. The three main elements within the population at risk include: predisposing, enabling, and need factors.

Within this study, the population at risk has been derived from the Essex County Health Utilization Survey (ECHUS), measuring the study results of 315 persons, aged 20 to 64 years of age. The distribution of respondents (figure 3) shows an

even distribution proportional to actual population distribution (figure 6).

6.2 Predisposing Factors

Some families and individuals have strong habitual tendencies to use more medical services than other families and individuals. This is associated with certain characteristics which exist independent of specific illness episodes. The characteristics themselves are not directly responsible for utilization of health care services, but rather they serve as proxies for factors that are.

Predisposing factors exist prior to the onset of illness episodes, and include all values concerning health and illness. These include, age, sex, social structure, ethnicity, education, and marital status.

Table 10 shows the age breakdown of respondent both for the City of Windsor (actual) and the ECHU survey. Differences within the percentages (table 10) are represented through percentages of actual respondents (sampling frame) and also through female participation. Females use medical services (in all areas) more than males — it is a biological phenomenon. Shannon, Bashshur, and Metzner also explain that females, because of the use of medical services are more apt to discuss more openly their medical history through a survey format. Females, within the ECHU suevey represent 56.5 percent of respondents within the City of Windsor.

Social structure and lifestyle have been indicators of use of health services since they can reflect where a person participates in social institutions. These may be organized to bring their members into closer contact with medical facilities. Ethnicity and religion practiced, two of the indicators, affect

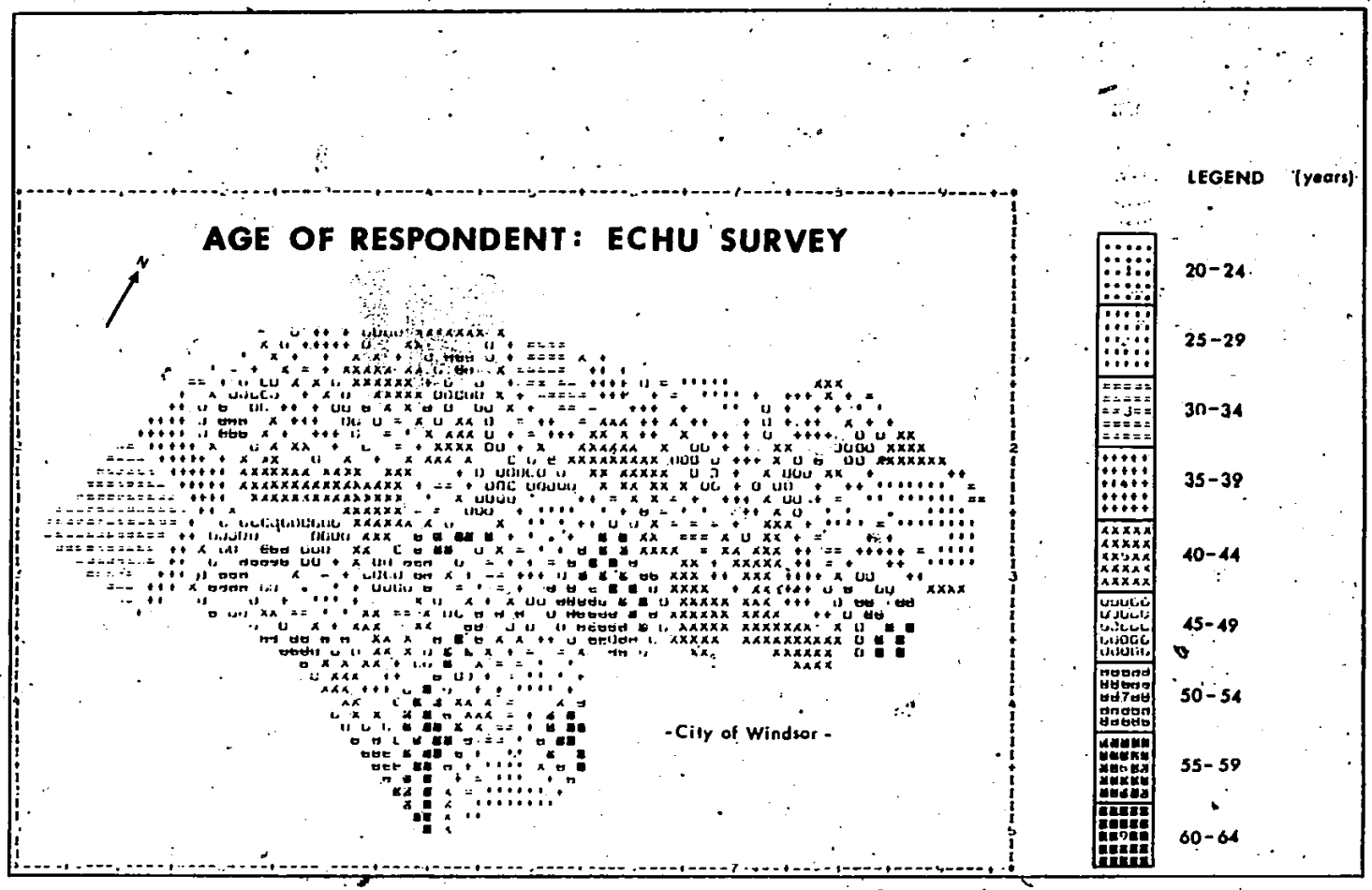


Figure 7

Symap

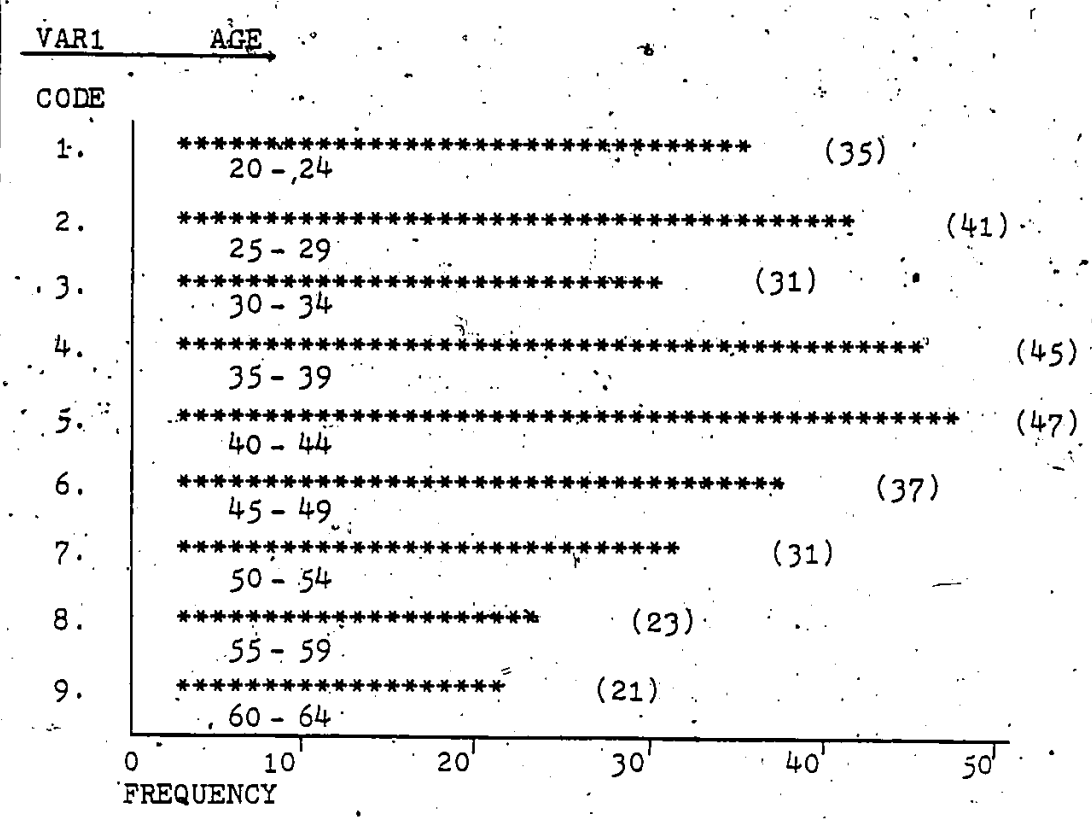
Source : author

Table 10

AGE OF RESPONDENT:

ECHU SURVEY, 1982

AGE GROUP	RESPONDENT TOTAL ECHU SURVEY (%)	CITY OF WINDSOR (%)
20-24	11.2	18.6
25-34	23.2	31.4
35-44	29.6	22.0
45-54	21.9	20.6
55-64	14.1	7.4
TOTAL	100.0	100.0



VALID CASES 311 MISSING CASES 4

source: author, 1982.

Table 11

ETHNICITY AND RELIGION BY RESPONDENT: ECHU SURVEY

Var04 ETHNICITY

CATEGORY LABEL	CODE	Absolute Freq	Relative Freq (pct)	Adjusted Freq (pct)	Cum Freq (pct)
Canadian	1.	171	54.3	54.5	54.5
French	2.	16	5.1	5.1	59.6
German	3.	21	6.7	6.7	66.2
S. Europe	4.	20	6.3	6.4	72.6
N&W Europe	5.	12	3.8	3.8	76.4
British	6.	20	6.3	6.4	82.8
Italian	7.	21	6.7	6.7	89.5
E. Europe	8.	16	5.1	5.1	94.6
Other	9.	17	5.4	5.4	100.0
	0.	1	0.3	missing	100.0
	TOTAL	315	100.0	100.0	

Var06 RELIGION PRACTICED

CATEGORY LABEL	CODE	Absolute Freq	Relative Freq (pct)	Adjusted Freq (pct)	Cum Freq (pct)
Protestant	1.	89	28.3	28.3	28.3
Orthodox	2.	10	3.2	3.2	31.5
Moslem	3.	1	0.3	0.3	31.8
Buddhist	4.	3	1.0	1.0	32.8
R. Catholic	5.	138	43.8	43.9	76.8
Jewish	6.	5	1.6	1.6	78.3
Hindu	7.	1	0.3	0.3	78.7
None	8.	30	9.5	9.6	88.2
Other	9.	37	11.7	11.8	100.0
	0.	1	0.3	missing	100.0
	TOTAL	315	100.0	100.0	

source: author, 1982.

Table 12

EMPLOYMENT BY RESPONDENT:

ECHU SURVEY

VAR09 PRESENTLY DOING

CATEGORY LABEL	CODE	Absolute Freq	Relative Freq (pct)	Adjusted Freq (pct)	Cum Freq (pct)
Working	1.	144	45.7	45.9	45.9
Keeping House	2.	69	21.9	22.0	67.8
Something Else	3.	98	31.1	31.2	99.0
D/K	4.	1	0.3	0.3	99.4
N/R	9.	2	0.6	0.6	100.0
	0.	1	0.3	missing	100.0
	TOTAL	315	100.0	100.0	

VAR10 IF SOMETHING ELSE - WHAT YOU DID

CATEGORY LABEL	CODE	Absolute Freq	Relative Freq (pct)	Adjusted Freq (pct)	Cum Freq (pct)
Layoff	1.	12	3.8	3.8	3.8
Student	2.	42	13.3	13.4	17.2
Staying Home	3.	5	1.6	1.6	18.8
Look for Work	4.	16	5.1	5.1	23.9
Unable to Work	5.	8	2.5	2.5	26.4
Retired	6.	2	0.6	0.6	27.1
Ill	7.	2	0.6	0.6	27.7
Other	8.	16	5.1	5.1	32.8
N/A	9.	211	67.0	67.2	100.0
	0.	1	0.3	missing	100.0
	TOTAL	315	100.0	100.0	

source: author, 1982.

Table 13

OCCUPATION BY RESPONDENT:

ECHU SURVEY

VAR11 EMPLOYED IN LAST THREE MONTHS

CATEGORY LABEL	CODE	Absolute Freq	Relative Freq (pct)	Adjusted Freq (pct)	Cum Freq (pct)
No	1.	76	24.1	24.3	24.3
Full Time	2.	153	48.6	48.9	73.2
Part Time	3.	83	26.3	26.5	99.7
N/R	9.	1	0.3	0.3	100.0
	0.	2	0.6	missing	100.0
	TOTAL	315	100.0	100.0	

VAR12 BUSINESS TYPE

CATEGORY LABEL	CODE	Absolute Freq	Relative Freq (pct)	Adjusted Freq (pct)	Cum Freq (pct)
Primary	1.	3	1.0	1.2	1.2
Construction	2.	19	6.0	7.7	8.9
Manuf	3.	39	12.4	15.7	24.6
Trans/Com	4.	24	7.6	9.7	34.3
Whol/Ret	5.	34	10.8	13.7	48.0
Finance	6.	7	2.2	2.8	50.8
Service/Misc	7.	77	24.4	31.0	81.9
Public Admin	8.	21	6.7	8.5	90.3
Unknown	9.	24	7.6	9.7	100.0
	0.	67	21.3	missing	100.0
	TOTAL	315	100.0	100.0	

source: author, 1982.

the use of services. It is assumed here that an individuals' health knowledge, attitudes, beliefs and practices are all functions of his ethnicity and religion.

Fifty four and one-half percent of respondents are Canadian, while both Italian and German (6.7 percent each) ranked second (table 11). Religion practiced shows Roman Catholic (43.9 percent) ranking highest, over Protestant, ranked second with 28.3 percent of respondents. This is a sharp contrast to the religious division in the total city population, which is approximately 50/50.

Within occupation categories, certain jobs reported are more mentally and physically demanding than others, and have a higher accident or stress rate. Some of these positions require a higher percent of medical attention per worker than other less demanding occupations. Occupational trends (tables 12 and 13) show 45.7 percent of respondents working outside the home, yet of these people only 48.6 percent are working on a full time basis. Of the respondents who are doing other than working outside the home, or keeping house, 13 percent were not working for various reasons (laid-off, unable to work, looking for work) with 19 percent of respondents going to school, retired, or other. Business type reported shows 60 percent of respondents within the service or misc., manufacturing, and wholesale and retail fields. In past studies of education as related to use of health care, it has been found, the more formal education a person has, the more awareness of health problems there is, and the better access there is to health and health information. The education of the public in health and the proper use of health care takes on many

forms such as: promotion; awareness of available services; and health services through schools, volunteer agencies, news media, health departments, industrial accident prevention, and provinvial health agencies.

Sixty four and one-half percent of respondents completed grade 13, with 35.5 percent reaching post secondary education. The highest reported grade is grade 12, having 26.3 percent of total respondents.

The general health of respondents is good with 73 percent of respondents in good to excellent perceived health, while 76 percent report exercising on a more than moderate basis, and 77 percent report being recreationally active, in personal leisure time (table 14). Respondents also appear to regard a regular checkup as very important (55.7 percent) with 89 percent of respondents having a regular doctor, and 82 percent of the respondents going to a physician at least once within the past year. The general practitioner represents the main physician type for respondents (73 percent), and this doctor was chosen (53 percent) through a relative or friend of the respondent (table 15).

Table 14

PERCEPTION OF HEALTH AND HEALTH OF RESPONDENT: ECHU SURVEY

VAR15 GENERAL HEALTH LAST MONTH

CATEGORY LABEL	CODE	Absolute Freq	Relative Freq (pct)	Adjusted Freq (pct)	Cum Freq (pct)
Poor	1.	18	5.7	5.8	5.8
Fair	2.	59	18.7	19.0	24.8
Good	3.	136	43.2	43.9	68.7
Excellent	4.	91	28.9	29.4	98.1
D/K	5.	6	1.9	1.9	100.0
	0.	5	1.6	missing	100.0
	TOTAL	315	100.0	100.0	

VAR16 PHYSICAL ACTIVITY

CATEGORY LABEL	Code	Absolute Freq	Relative Freq (pct)	Adjusted Freq (pct)	Cum Freq (pct)
Very active	1.	72	22.9	23.1	23.1
Mod active	2.	188	59.7	60.3	83.3
Quite inactive	3.	51	16.2	16.3	99.7
D/K	4.	1	0.3	0.3	100.0
	0.	3	1.0	missing	100.0
	TOTAL	315	100.0	100.0	

VAR17 RECREATIONAL ACTIVITY

CATEGORY LABEL	CODE	Absolute Freq	Relative Freq (pct)	Adjusted Freq (pct)	Cum Freq (pct)
Much exercise	1.	64	20.3	20.4	20.4
Mod exercise	2.	180	57.1	57.5	78.0
Little or no exercise	3.	69	21.9	22.0	100.0
	0.	2	0.6	missing	100.0
	TOTAL	315	100.0	100.0	

VAR19 DOCTOR - REASON FOR LAST VISIT

CATEGORY LABEL	CODE	Absolute Freq	Relative Freq (pct)	Adjusted Freq (pct)	Cum Freq (pct)
Sick or ill	1.	78	24.8	25.1	25.1
Injury	2.	46	14.6	14.8	39.9
Follow up visit	3.	37	11.7	11.9	51.8
Reg checkup	4.	107	34.0	34.4	86.2
Injection	5.	19	6.0	6.1	92.3
Other	6.	24	7.6	7.7	100.0
	0.	4	1.3	missing	100.0
	TOTAL	315	100.0	100.0	

Source : author

Table 15

ACCESS TO PHYSICIAN CARE BY RESPONDENT: ECHU SURVEY

VAR52 SPECIFIC DOCTOR YOU GO TO

CATEGORY LABEL	CODE	Absolute Freq	Relative Freq (pct)	Adjusted Freq (pct)	Cum Freq (pct)
Yes	1.	281	89.2	89.2	89.2
No	2.	34	10.8	10.8	100.0
	TOTAL	315	100.0	100.0	

VAR54 HOW DOCTOR CHOSEN

CATEGORY LABEL	CODE	Absolute Freq	Relative Freq (pct)	Adjusted Freq (pct)	Cum Freq (pct)
By another Doctor	1.	55	17.5	17.6	17.6
Relative or friend	2.	166	52.7	53.0	70.6
Medical Bureau	3.	16	5.1	5.1	75.7
Telephone book	4.	15	4.8	4.8	80.5
Other	5.	26	8.3	8.3	88.8
N/A	6.	35	11.1	11.2	100.0
	0.	2	0.6	missing	100.0
	TOTAL	315	100.0	100.0	

VAR55 GP OR SPECIALIST

CATEGORY LABEL	CODE	Absolute Freq	Relative Freq (pct)	Adjusted Freq (pct)	Cum Freq (pct)
GP	1.	231	73.3	73.3	73.3
Specialist	2.	48	15.2	15.2	88.6
N/A	3.	34	10.8	10.8	99.4
D/K	5.	1	0.3	0.3	99.7
N/R	8.	1	0.3	0.3	100.0
	TOTAL	315	100.0	100.0	

VAR56 NUMBER OF VISITS - PAST YEAR

CATEGORY LABEL	CODE	Absolute Freq	Relative Freq (pct)	Adjusted Freq (pct)	Cum Freq (pct)
None	1.	56	17.8	18.3	18.3
1 - 2	2.	114	36.2	37.3	55.6
3 - 4	3.	52	16.5	17.0	72.5
5 - 6	4.	29	9.2	9.5	82.0
7 - 8	5.	8	2.5	2.6	84.6
9 - 10	6.	6	1.9	2.0	86.6
11+	7.	7	2.2	2.3	88.9
N/A	8.	34	10.8	11.1	100.0
	0.	9	2.9	missing	100.0
	TOTAL	315	100.0	100.0	

Source : author

6.3 Enabling Factors

Unlike the predisposing factors, where respondent factors exist prior to illness episodes, enabling factors include the "means" individuals have available to them for the use of services, such as income and health insurance. One must have the means to actually enter the health care market when predisposed to poor health.

Fifty one percent of respondents (table 16, figure 8) do not earn more than 12,000 dollars annually, with 31 percent of the respondents earning less than 6,000 dollars annually. This, however, reflects that most of the respondents are working inside the home or not working at all.

Health insurance coverage is both a characteristic of the population at risk, plus or minus the component of health policy. With the introduction of health care insurance (subsidized for lower income groups) the lowest income had a very high utilization rate per capita, which on a graph, is followed by a very rapid drop off within the middle income groups, and a second peak by the higher income group. This 'U' shaped curve represents insurance coverage subsidy by the lower income group, and inversely, the lifestyle association by the higher income group which reflects a stronger natural desire to remain healthy.

One problem that does arise is the cost of post medical services through prescriptions and other than general health insurance (prescription services) are often forced to abandon health care due to no remedy for the high costs of drugs. This often affects the lower income groups because of less disposable income, and no prescription plan associated with employment.

Table 16

INCOME AND INSURANCE BY

RESPONDENT: ECHU SURVEY

VAR14 INCOME GROUP

CATEGORY LABEL	CODE	Absolute Freq	Relative Freq (pct)	Adjusted Freq (pct)	Cum Freq (pct)
Less than $6000	1.	96	30.5	31.4	31.4
$6001 - $12000	2.	60	19.0	19.6	51.0
$12001 - $18000	3.	49	15.6	16.0	67.0
$18001 - $30000	4.	68	21.6	22.2	89.2
$30001 - $42000	5.	22	7.0	7.2	96.4
$42001 - $54000	6.	7	2.2	2.3	98.7
$54001 and over	7.	4	1.3	1.3	100.0
	0.	9	2.9	missing	100.0
	TOTAL	315	100.0	100.0	

VAR67 OHIP COVERAGE

CATEGORY LABEL	CODE	Absolute Freq	Relative Freq (pct)	Adjusted Freq (pct)	Cum Freq (pct)
No	1.	31	9.8	10.0	10.0
Less than half	2.	10	3.2	3.2	13.2
Over half / Not all	3.	46	14.6	14.8	28.0
All	4.	174	55.2	55.9	83.9
D/K	5.	50	15.9	16.1	100.0
	0.	4	1.3	missing	100.0
	TOTAL	315	100.0	100.0	

VAR72 COST OF PRESCRIPTION

CATEGORY LABEL	CODE	Absolute Freq	Relative Freq (pct)	Adjusted Freq (pct)	Cum Freq (pct)
No drugs purchased	1.	19	6.0	6.1	6.1
None	2.	47	14.9	15.0	21.0
Less than half	3.	106	33.7	33.8	54.8
Over half / Not all	4.	45	14.3	14.3	69.1
All	5.	69	21.9	22.0	91.1
D/K	6.	28	8.9	8.9	100.0
	*0.	1	0.3	missing	100.0
	TOTAL	315	100.0	100.0	

Source : author

Health insurance coverage in Windsor by respondent shows ten percent of respondents do not have health insurance coverage by OHIP, and twenty-two percent do not have prescription coverage.

Literature indicates that some individuals who are insured take fewer precautions to avert or minimize (quantitatively or qualitatively) their use of medical services because they do not directly incur the full costs of the treatment they receive.

Even though medical insurance coverage may be available to the population, the required service may not be. Access to available services is still related to the non-use of services while utilization is evidence that access is acheived. Within the City of Windsor, although no results are related to lack of service, 21.4 percent of respondents relate they have had a recent incident of not going to a physician with 6.1 percent stating they had no means to get to the doctor and 4.4 percent relating they did not have proper funds to cover the costs.

With respect to origin of trip to physician, most respondents leave for the physician's office from home (71.4 percent), with 21.5 percent going from work or within the work place. Most respondents (77 percent), use an automobile as direct access to medical service, and most travel (one way) takes up to 29 minutes for 84 percent of the respondents. When respondents last saw their physicians, 16 percent reported it was difficult for them to see the doctor, for reasons such as lack of time (1.7 percent), no transportation (5.3 percent), and physical difficulties (2.3 percent).

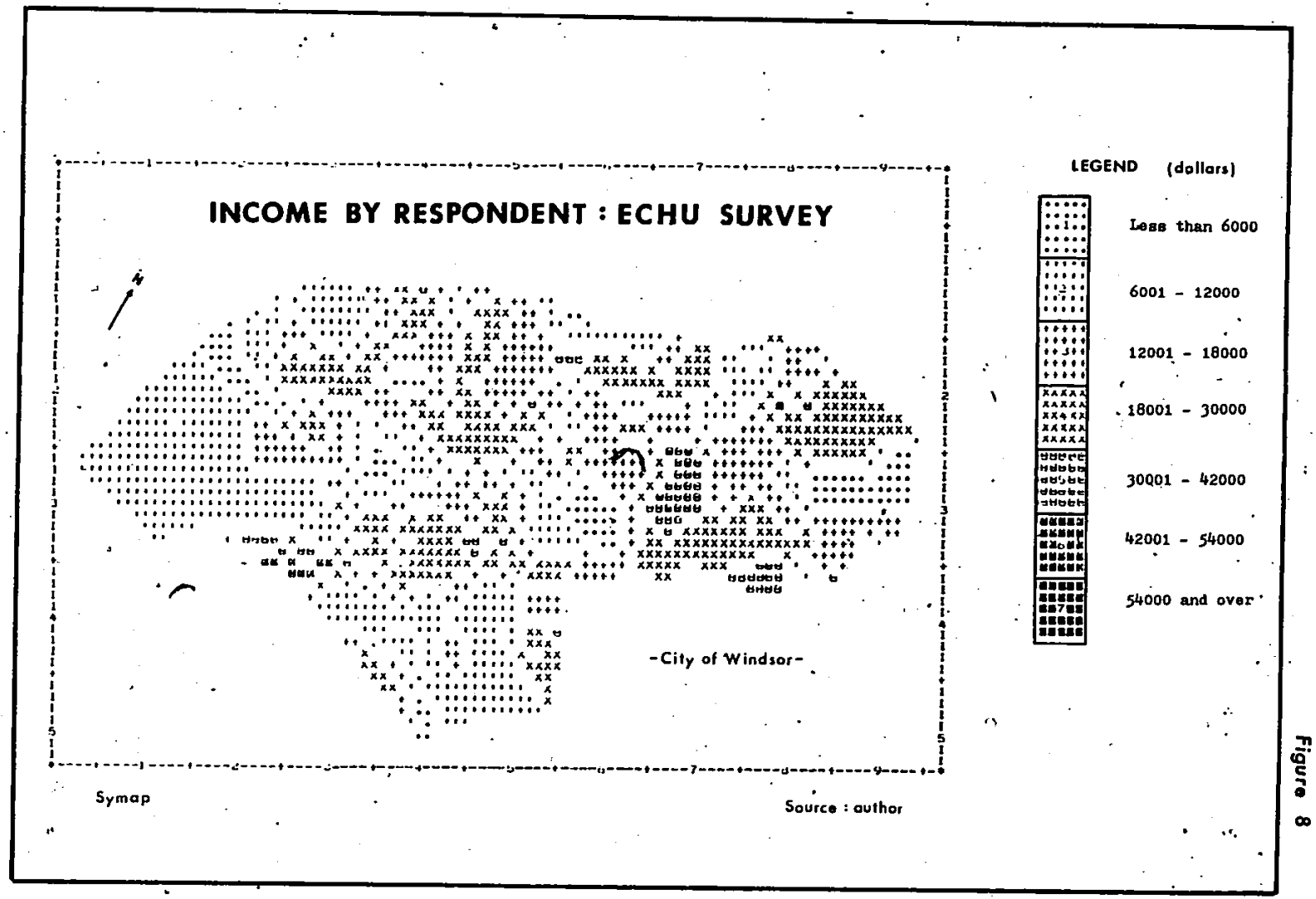

INCOME BY RESPONDENT : ECHU SURVEY
LEGEND (dollars)
Less than 6000
6001 - 12000
12001 - 18000
18001 - 30000
30001 - 42000
42001 - 54000
54000 and over
-City of Windsor-
Symap
Source : author

Figure 8

Table 17

ORIGIN OF TRIP TO PHYSICIAN:

ECHU SURVEY

VAR35 ORIGIN OF TRIP TO DOCTOR

CATEGORY LABEL	CODE	Absolute Freq	Relative Freq (pct)	Adjusted Freq (pct)	Cum Freq (pct)
From Home	1.	222	70.5	71.4	71.4
From work	2.	67	21.3	21.5	92.9
Other	3.	21	6.7	6.8	99.7
N/R	5.	1	0.3	0.3	100.0
	0.	4	1.3	missing	100.0
	TOTAL	315	100.0	100.0	

VAR36 MEANS OF TRAVEL

CATEGORY LABEL	CODE	Absolute Freq	Relative Freq (pct)	Adjusted Freq (pct)	Cum Freq (pct)
Walked	1.	23	7.3	7.4	7.4
Bus	2.	30	9.5	9.6	17.0
Cab	3.	9	2.9	2.9	19.9
Own car	4.	210	66.7	67.5	87.5
Ambulance	5.	5	1.6	1.6	89.1
Somebody elses car	6.	30	9.5	9.6	98.7
Other	7.	4	1.3	1.3	100.0
	0.	4	1.3	missing	100.0
	TOTAL	315	100.0	100.0	

VAR37 TRAVEL TIME TO DOCTOR

CATEGORY LABEL	CODE	Absolute Freq	Relative Freq (pct)	Adjusted Freq (pct)	Cum Freq (pct)
Less than 15 minutes	1.	104	33.0	33.2	33.2
15 - 29 minutes	2.	161	51.1	51.4	84.7
30 - 59 minutes	3.	39	12.4	12.5	97.1
60+ minutes	4.	5	1.6	1.6	98.7
D/R	5.	4	1.3	1.3	100.0
	0.	2	0.6	missing	100.0
	TOTAL	315	100.0	100.0	

Source : author

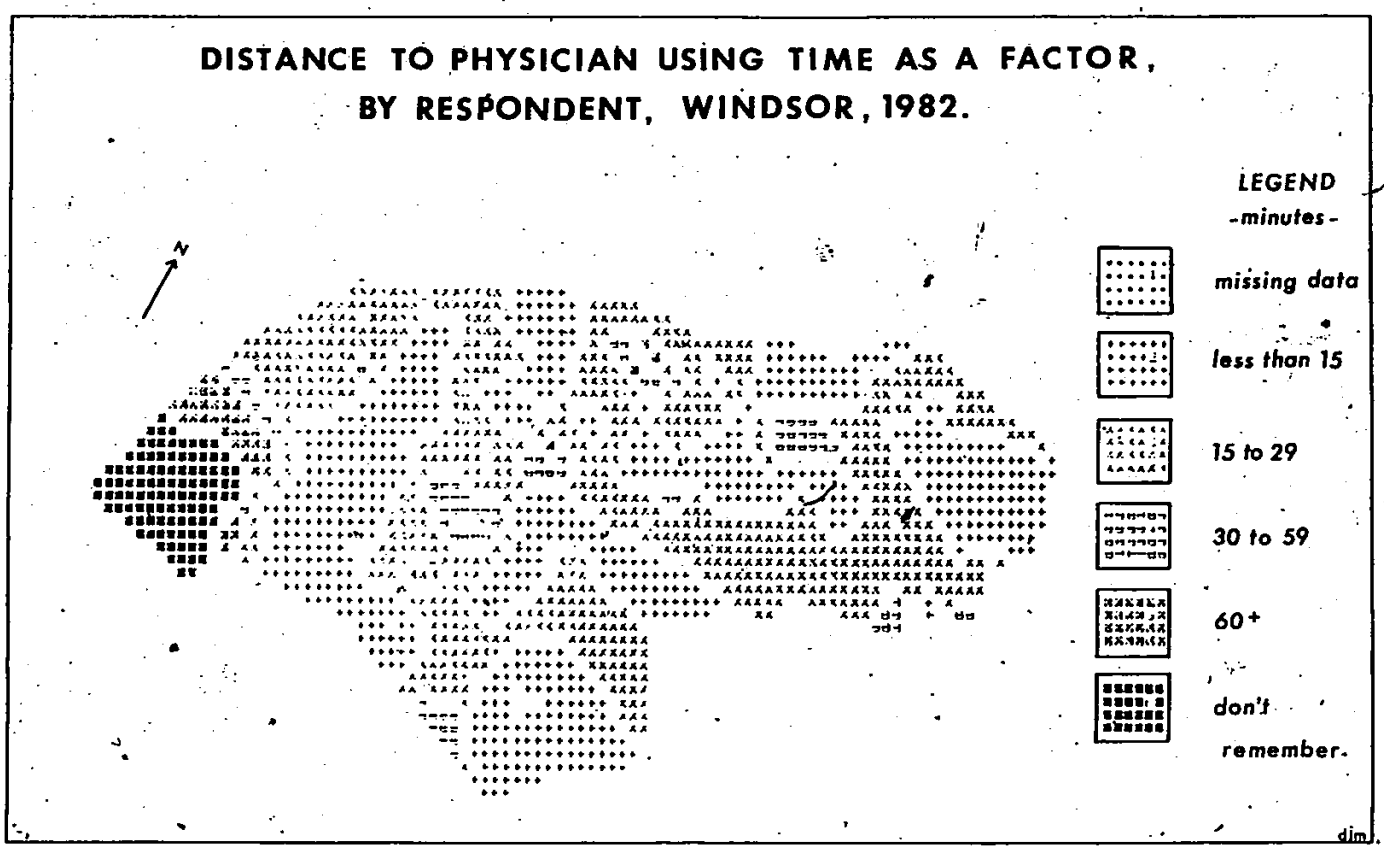


Figure 9

symap

source: author

6.4 Need Factors

Need factors represent the most immediate cause of health service use. One must perceive the need to use health services. Need is measure by : self-perceived health status (excellent, good, fair, poor); frequency of pain; number of symptoms; restricted activity days; and disability days. The greater the need, the greater the utilization of health services.

Respondents (55.7 percent) perceive that it is important to have a regular checkup. A regular checkup was cited by 34 percent of the respondants as a reason for their last checkup. Forty percent of respondents reported having two or fewer physical disorders. Conditions construed as medical disorders have been present in 88 percent of all respondents, with 40 percent having at least one physical disorder requiring medical attention in their lifetime. Of these conditions contracted, 61 percent reported more than one condition at the present time, with 43 percent reporting no more than two conditions. The average duration of illness reported is very high with 47.6 percent reported to have conditions between nine and ten years in length.

Aside from access to regular care, a more non-specific general measure of some immediate importance is the access to sympathetic care. This relates more to a supportive value, other than illness, to build confidence, and to get advise and help, since the individual most likely to prosper and use the health care system is one who is confident of it, and wants to return

Table 18

ILLNESS BY RESPONDENT: ECHU SURVEY

VAR28 CONDITIONS CONTRACTED

CATEGORY LABEL	CODE	Absolute Freq	Relative Freq (pct)	Adjusted Freq (pct)	Cum Freq (pct)
None	1.	67	21.3	22.0	22.0
1 - 2	2.	123	39.0	40.3	62.3
3 - 4	3.	58	18.4	19.0	81.3
5 - 6	4.	31	9.8	10.2	91.5
7 - 8	5.	13	4.1	4.3	95.7
9 - 10	6.	8	2.5	2.6	98.4
11 +	7.	3	1.0	1.0	99.3
D/R	9.	2	0.6	0.7	100.0
	0.	10	3.2	missing	100.0
	TOTAL	315	100.0	100.0	

VAR29 CONDITIONS STILL PRESENT

CATEGORY LABEL	CODE	Absolute Freq	Relative Freq (pct)	Adjusted Freq (pct)	Cum Freq (pct)
None	1.	113	35.9	38.7	38.7
1 - 2	2.	125	39.7	42.8	81.5
3 - 4	3.	36	11.4	12.3	93.8
5 - 6	4.	14	4.4	4.8	98.6
7 - 8	5.	3	1.0	1.0	99.7
9+	6.	1	0.3	0.3	100.0
	0.	23	7.3	missing	100.0
	TOTAL	315	100.0	100.0	

VAR30 AVERAGE DURATION OF ILLNESS

CATEGORY LABEL	CODE	Absolute Freq	Relative Freq (pct)	Adjusted Freq (pct)	Cum Freq (pct)
Less than 2 weeks	1.	1	0.3	0.3	0.3
2 weeks - 6 months	2.	7	2.2	2.4	2.7
7 months - 12 months	3.	8	2.5	2.7	5.4
1 year - 2 years	4.	17	5.4	5.7	11.1
2 years - 4 years	5.	35	11.1	11.8	23.0
5 years - 10 years	6.	73	23.2	24.7	47.6
11 years - 15 years	7.	41	13.0	13.9	61.5
16+ years	8.	47	14.9	15.9	77.4
D/R	9.	67	21.3	22.6	100.0
	0.	19	6.0	missing	100.0
	TOTAL	315	100.0	100.0	

Source : author

to normal activity. The more supportative of the health care system a person is, the more it will be used for curative reasons (Robertson, 1971, 140).

6.5 Interrelationship Among Select Variables

Through the use of multiple regression analysis, select dependent variables were tested against all independent variable to establish strong existing relationships between variables. A Kolmogorov-Smirnov test resulted in proving normality of the data. It is assumed that all regressions are truly independent of each other.

Age, as a dependent variable has a strong relationship with length of residence, amount of physical activity, decision to see the physician, occupation type, and medical services from other than physician. The results indicate with a longer length of permanent residence, there are more established access and utilization patterns, there tends to be less general physical activity, more use of other than physician services, and more regular checkups. A breakdown by age group indicates the 20 to 34 age group respond to more physical activity compared to other age groups while the 45 to 64 year age group responds more favourably to all other independent variables mentioned.

Sex, as a dependent variable reflects strong relationships with independent variables including respondents employment status within the past three months (females less employed than males), the number of visits to the physician within the past year, the origin of trip to the physician, lagtime in the decision to see the physician (time between original decision to see physician and the actual confrontation with the physician), visit satisfaction, and recreational activity. Breakdown of respondent by sex shows high female use of services, especially

as age increases. Females working outside the home decreases with age, yet increases from the 20 to 24 year age group.

Completed grade of education as a dependent variable shows the strongest relationships with independent variable including occupation and business type, physical activity, number of doctor referrals, perception of timelag in the physicians' office, and means of travel to the physicians' office.

Income as a dependent variable is most strongly related to the occupational status of the respondent, especially within the last three months. Health related patterns include only referral patterns of the respondent.

Travel time as a dependent variable is explained most firmly with length of residence in present home, perception of timelag in doctors' office, how the physician of respondent was chosen, having health services administered in a company or industrial clinic, and physical activity by the respondent.

The last dependent variable tested, the specific doctor the respondent goes to, established the most strength between independent variables. These included : respondents decision to see the physician, how the physician was chosen, timelag in the doctors' office, doctor or specialists referrals (and number of referrals), and medical service from other than physicians (optometrists, dentists, chiropractors).

6.6 Summary

Certain categories have more, or less "access" to medical care than others, depending upon biological or social factors (age, sex, occupation) among the predisposing factors, or upon some of the enabling characteristic within the community structure (income, medical insurance, prescription insurance), which serve to define these groups. The more manipulable these factors become, more or less access to medical services will occur.

The need factors and degree of need will in most cases determine access (but not always grant access) even if enabling factors are not established. The use of services which relates a "U" shaped curve when related to medical insurance shows how subsidized health insurance helps low income achieve a higher degree of health service use with the use of preventive measures and therefore the use of health services are higher among higher income groups. Middle income groups represent the use of less service because of direct cost of health insurance from disposable income and also because of costs of drugs and dental care insurance.

Interrelationships among select dependent variables shows strength of independent variables which may explain patterns of entry (or non-entry) into the health care system. "The level of pattern of the populations' actual utilization of the system is one measure that may be used to test the predictive validity of the system - and individual-based access indicators" (Aday and Anderson, 1974, 214).

CHAPTER 7

UTILIZATION OF HEALTH SERVICES

7.1 Introduction

The utilization of health services may be characterized in terms of its type (the kind of service received, and who provided it), site (the place where care is received), purpose (if for preventive, illness related or custodial care), and the time interval.

Consumer satisfaction refers to the attitude toward the health care system of those who have indeed experienced a contact with it. The ultimate goal of the quality of care is its effectiveness in achieving or producing health and satisfaction. Prior to utilization, an individuals' perception about the health delivery system will influence his or hers decision to enter it. Patience have been shown, according to Fiedler (1981,138), to be more satisfied and thus to be more inclined to utilize services when providers gave more information, counselled patients, explained payment plans, were happier and had a favourable attitude towards the patient, and spent more time with the patient. People also tend to be more satisfied if they have a regular physician, wait less in an office, and are in a larger, more pleasant hospital.

Patient satisfaction can also be useful in evaluating reasons why people do not seek care. In this case a feedback mechanism operates reflecting the validity and importance of the

process indicators that affect whether or not entry into the system is gained. Satisfaction could offer a better insight into how the best design and/or alter the health delivery system (including encouraging particular types of provider behaviour) so as to improve access and utilization of health care services.

7.2 Use of Physician Services

The utilization of health care within this section refers to patient care received from physician, usually within the physicians' office, whether it be a private or group office, and whether the physician is a general practitioner or specialist.

Within the City of Windsor, 70.6 percent of respondents report going to see the doctor at least one time within the past year (table 15, var. 56). Within this group, 71 percent left from home to go to the doctor, with 67 percent taking their own car, and 84.7 percent travelling up to 29 minutes to get to their destination. This population also reports a high percentage who have a regular doctor (89 percent), with 73 percent reporting this regular doctor being a general practitioner (as opposed to a specialist).

The number of physician visits within the past year, as related to respondent population distribution (Figure 10) shows overall randomness. A comparison with actual location of respondents (Figure 3) shows "non-populated" areas higher in utilization than those more represented by respondent population. This can be seen within the west side of Windsor (Ojibway, Sandwich, Malden planning area), where high concentration of respondents reside within the northern section, and a high number of visits are represented within the southern portion of the planning area.

As a reason for going to the doctor, 34 percent of respondents report it was for a regular checkup, while 39 percent report they had something physically wrong with them that was to

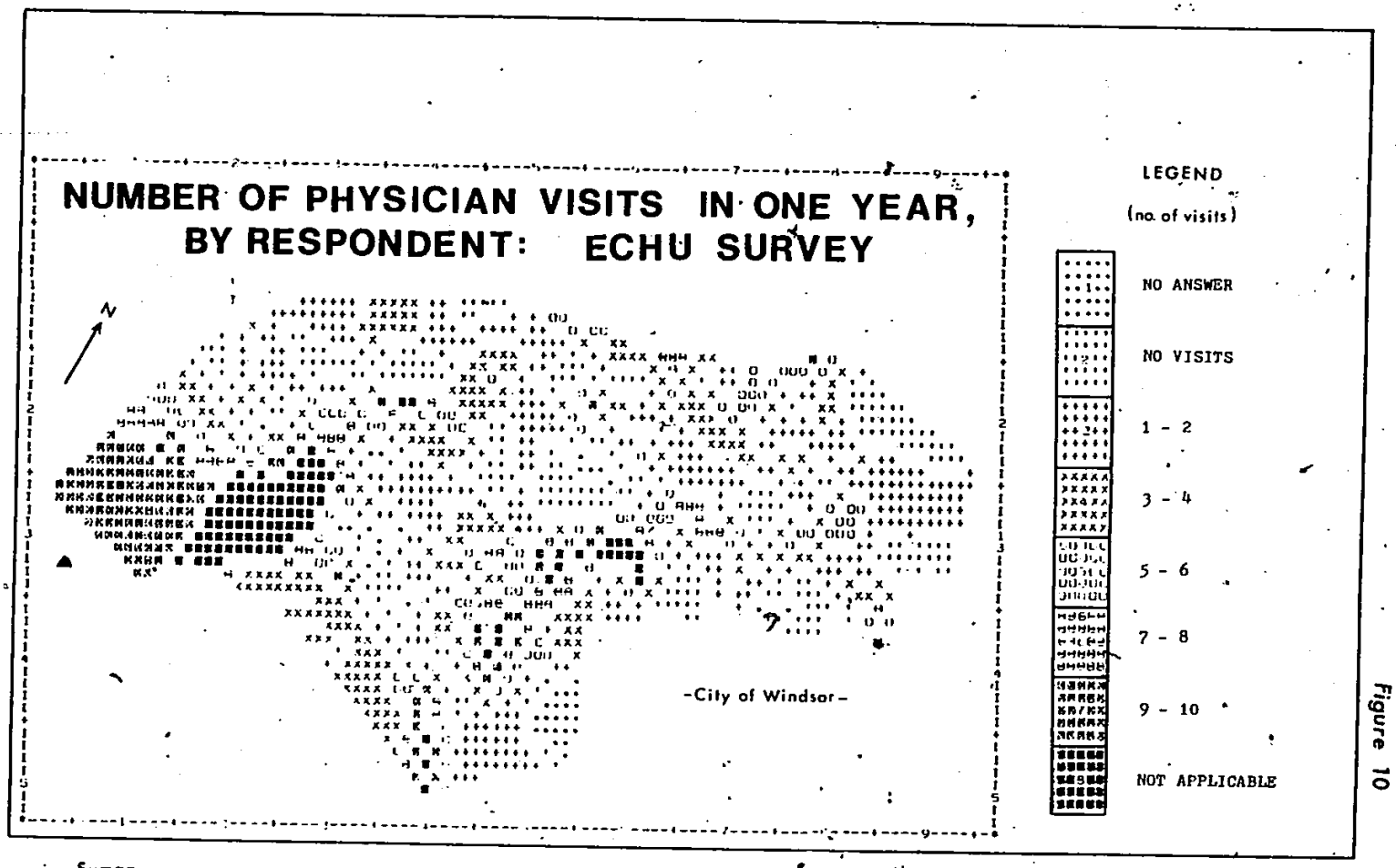


Figure 10

Symap

Source: author

Table 19

VISITS TO OTHER PHYSICIANS IN THE PAST YEAR: ECHU SURVEY

VAR53 DOCTOR BUSY - GOTO ANOTHER

CATEGORY LABEL	CODE	Absolute Freq	Relative Freq (pct)	Adjusted Freq (pct)	Cum Freq (pct)
Yes	1.	135	42.9	43.0	43.0
No	2.	86	27.3	27.4	70.4
D/K	3.	58	18.4	18.5	88.9
N/A	4.	35	11.1	11.1	100.0
	0.	1	0.3	missing	100.0
	TOTAL	315	100.0	100.0	

VAR58 VISITS TO OTHER DOCTORS - PAST YEAR

CATEGORY LABEL	CODE	Absolute Freq	Relative Freq (pct)	Adjusted Freq (pct)	Cum Freq (pct)
None	1.	116	36.8	37.1	37.1
1 - 2	2.	128	40.6	40.9	78.0
3 - 4	3.	25	7.9	8.0	85.9
5 - 6	4.	6	1.9	1.9	87.9
7 - 8	5.	3	1.0	1.0	88.8
N/A	6.	35	11.1	11.2	100.0
	0.	2	0.6	missing	100.0
	TOTAL	315	100.0	100.0	

source: author

be looked at by the physician and 11.9 percent received custodial care, or a follow-up visit after an initial visit earlier.

Respondents also reported reasons for not going to the doctor at one time or another, even though they felt they needed to go. Within this population (24 percent) these reasons included : lack of confidence in the physician regarding their condition (5.7 percent); they could not set enough time aside to go (12.4 percent); the financial cost would be too much (4.4 percent); they did not have an appointment to go (2.5 percent); it was too far to travel to the doctor (3.2 percent); they did not have proper transportation to the doctors' office (2.9 percent); and/or they would be afraid of finding negative results after a trip to a physician (8.9 percent).

Although 89 percent of the population surveyed reported having a regular doctor, 43 percent felt that if their doctor was in a position where he could not see them when they needed him, they were willing to go to another doctor, for the same service (table 19). It was also reported that 69 percent of the respondents who have a regular doctor, have in the past gone to a different doctor instead of their own physician for identical service.

Referral patterns (table 20) within the study population indicated approximately one-half of the population had been referred to another doctor at least one time in the past twelve months. Within this referral process, 34.8 percent reported the referral (by their physician) was to a specialist, with 15.7 percent reporting it was to general practitioner (49.5 percent

Table 20

DOCTOR REFERRAL PATTERNS:

ECHU SURVEY

VAR59 DOCTOR REFERRALS

CATEGORY LABEL	CODE	Absolute Freq	Relative Freq (pct)	Adjusted Freq (pct)	Cum Freq (pct)
None	1.	47	14.9	15.1	15.1
1 single doctor	2.	54	17.1	17.3	32.4
1 , but not all doctors	3.	15	4.8	4.8	37.2
All doctors	4.	45	14.3	14.4	51.6
N/A	5.	151	47.9	48.4	100.0
	0.	3	1.0	missing	100.0
	TOTAL	315	100.0	100.0	

VAR60 WAS REFERRAL A G.P. OR SPECIALIST

CATEGORY LABEL	CODE	Absolute Freq	Relative Freq (pct)	Adjusted Freq (pct)	Cum Freq (pct)
GP	1.	47	14.9	15.7	15.7
Specialist	2.	104	33.0	34.8	50.5
N/A	3.	148	47.0	49.5	100.0
	0.	16	5.1	missing	100.0
	TOTAL	315	100.0	100.0	

VAR61 SECOND REFERRAL - G.P. OR SPECIALIST

CATEGORY LABEL	CODE	Absolute Freq	Relative Freq (pct)	Adjusted Freq (pct)	Cum Freq (pct)
GP	1.	2	0.6	0.7	0.7
Specialist	2.	34	10.8	11.5	12.2
N/A	3.	259	82.2	87.5	99.7
N/R	6.	1	0.3	0.3	100.0
	0.	19	6.0	missing	100.0
	TOTAL	315	100.0	100.0	

Source: author

was not applicable). Referrals to other doctors indicate the personal physician referred respondents to : one doctor only (17.3 percent); one, but not all doctors they had been referred to (4.8 percent); all doctors they were referred to (14.4 percent); and in the event of a second referral, the doctor chosen was almost always a specialist, rather than a general practitioner.

Although there may, or may not be a medical reason behind seeking primary medical care, the initial decision to see the physician is totally dependent upon the patient. The physician then heavily influences further access into the system, screening the needs of the patients, in view of medical services available and associated with particular illness episodes. Respondents (table 21) reported that once an initial decision is made to seek physician care, it takes time to actually make with the physicians' office for an appointment, or make an office visit with no appointment. This time delay between thoughts of seeking care to actual initiative to obtain care is reported to consume up to six days of time (43.6 percent).

The second delay, after the initial decision has been made, is with appointment delay. A majority of respondents (83.7 percent) report after an appointment has been made, it took upward of six days to see the doctor (51.8 percent), and in extreme cases the delay may be up to three months (for specialists). Within the length of the appointment to seek care, 16.5 percent of respondents thought the appointment time was too long to wait for their perceived "seriousness" of medical need,

and 62.5 percent felt satisfied even with their appointment delay.

Figure five, viewing the distribution of respondents regarding visit satisfaction of their last visit to a physician, shows an even distribution of satisfied patients across Windsor. The planning area to the west, Ojibway-Malden-Sandwich again has a misrepresentation of reflected data results due to the distribution of population in that planning area. The dissatisfied respondents represent only 5.1 percent of the population and is dispersed within the city.

Once a patient has entered a doctors' office, he may, or may not incur another delay within the waiting room. When asked how long they had to wait for the doctor (table 21), 70.2 percent reported the wait was from no time, to one-half hour, with 16.7 percent reporting less than a ten minute waif. The majority of respondents reported waiting ten to thirty minutes, with almost nobody waiting over ninety minutes. When commenting upon their wait within the doctors' office, 6.5 percent felt the wait was not long, with 63.1 percent feeling satisfied with the visit incurred.

Table 21

TIME DELAY AND VISIT SATISFACTION: ECHU SURVEY

VAR40 TIMELAG IN DOCTOR OFFICE

CATEGORY LABEL	CODE	Absolute Freq	Relative Freq (pct)	Adjusted Freq (pct)	Cum Freq (pct)
0 - 10 minutes	1.	52	16.5	16.7	16.7
10 - 20 minutes	2.	92	29.2	29.5	46.2
20 - 30 minutes	3.	75	23.8	24.0	70.2
30 - 40 minutes	4.	34	10.8	10.9	81.1
40 - 50 minutes	5.	27	8.6	8.7	89.7
50 - 60 minutes	6.	20	6.3	6.4	96.2
60 - 90 minutes	7.	10	3.2	3.2	99.4
90 minutes +	8.	2	0.6	0.6	100.0
	0.	3	1.0	missing	100.0
	TOTAL	315	100.0	100.0	

VAR41 PERCEPTION TIMELAG IN OFFICE

CATEGORY LABEL	CODE	Absolute Freq	Relative Freq (pct)	Adjusted Freq (pct)	Cum Freq (pct)
Wait too long	1.	109	34.6	35.0	35.0
Wait not too long	2.	202	64.1	65.0	100.0
	0.	4	1.3	missing	100.0
	TOTAL	315	100.0	100.0	

VAR42 VISIT SATISFACTION

CATEGORY LABEL	CODE	Absolute Freq	Relative Freq (pct)	Adjusted Freq (pct)	Cum Freq (pct)
Satisfied	1.	198	62.9	63.1	63.1
Not complet satisf	2.	77	24.4	24.5	87.6
Dissatisfied	3.	16	5.1	5.1	92.7
N/R	4.	23	7.3	7.3	100.0
	0.	1	0.3	missing	100.0
	TOTAL	315	100.0	100.0	

Source: author

Table 22

DECISION AND APPOINTMENT DELAY: ECHU SURVEY

VAR 31 DECISION TO SEE THE DOCTOR

CATEGORY LABEL	CODE	Absolute Freq	Relative Freq (pct)	Adjusted Freq (pct)	Cum Freq (pct)
Less than 1 day	1.	38	12.1	12.1	12.1
1 - 6 days	2.	99	31.4	31.5	43.6
1 - 2 weeks	3.	55	17.5	17.5	61.1
2 - 3 weeks	4.	52	16.5	16.6	77.7
1 - 2 months	5.	30	9.5	9.6	87.3
3 months plus	6.	19	6.0	6.1	93.3
D/R	7.	21	6.7	6.7	100.0
	0.	1	0.3	missing	100.0
	TOTAL	315	100.0	100.0	

VAR32 APPOINTMENT TO SEE DOCTOR

CATEGORY LABEL	CODE	Absolute Freq	Relative Freq (pct)	Adjusted Freq (pct)	Cum Freq (pct)
Yes	1.	262	83.2	83.7	83.7
No	2.	51	16.2	16.3	100.0
	0.	2	0.6	missing	100.0
	TOTAL	315	100.0	100.0	

VAR33 TIMELAG OF APPOINTMENT

CATEGORY LABEL	CODE	Absolute Freq	Relative Freq (pct)	Adjusted Freq (pct)	Cum Freq (pct)
Less than 1 day	1.	40	12.7	12.8	12.8
1 - 6 days	2.	122	38.7	39.0	51.8
1 - 2 weeks	3.	52	16.5	16.6	68.4
2 - 3 weeks	4.	31	9.8	9.9	78.3
1 - 2 months	5.	8	2.5	2.6	80.8
3 months plus	6.	7	2.2	2.2	83.1
D/R	7.	9	2.9	2.9	85.9
N/A	8.	44	14.0	14.1	100.0
	0.	2	0.6	missing	100.0
	TOTAL	315	100.0	100.0	

VAR34 PERCEPTION OF TIMELAG (TOO LONG?)

CATEGORY LABEL	CODE	Absolute Freq	Relative Freq (pct)	Adjusted Freq (pct)	Cum Freq (pct)
Yes	1.	52	16.5	16.8	16.5
No	2.	197	62.5	63.5	80.3
D/R	3.	17	5.4	5.5	85.5
N/A	4.	44	14.0	14.2	100.0
	0.	5	1.6	missing	100.0
	TOTAL	315	100.0	100.0	

Source: author

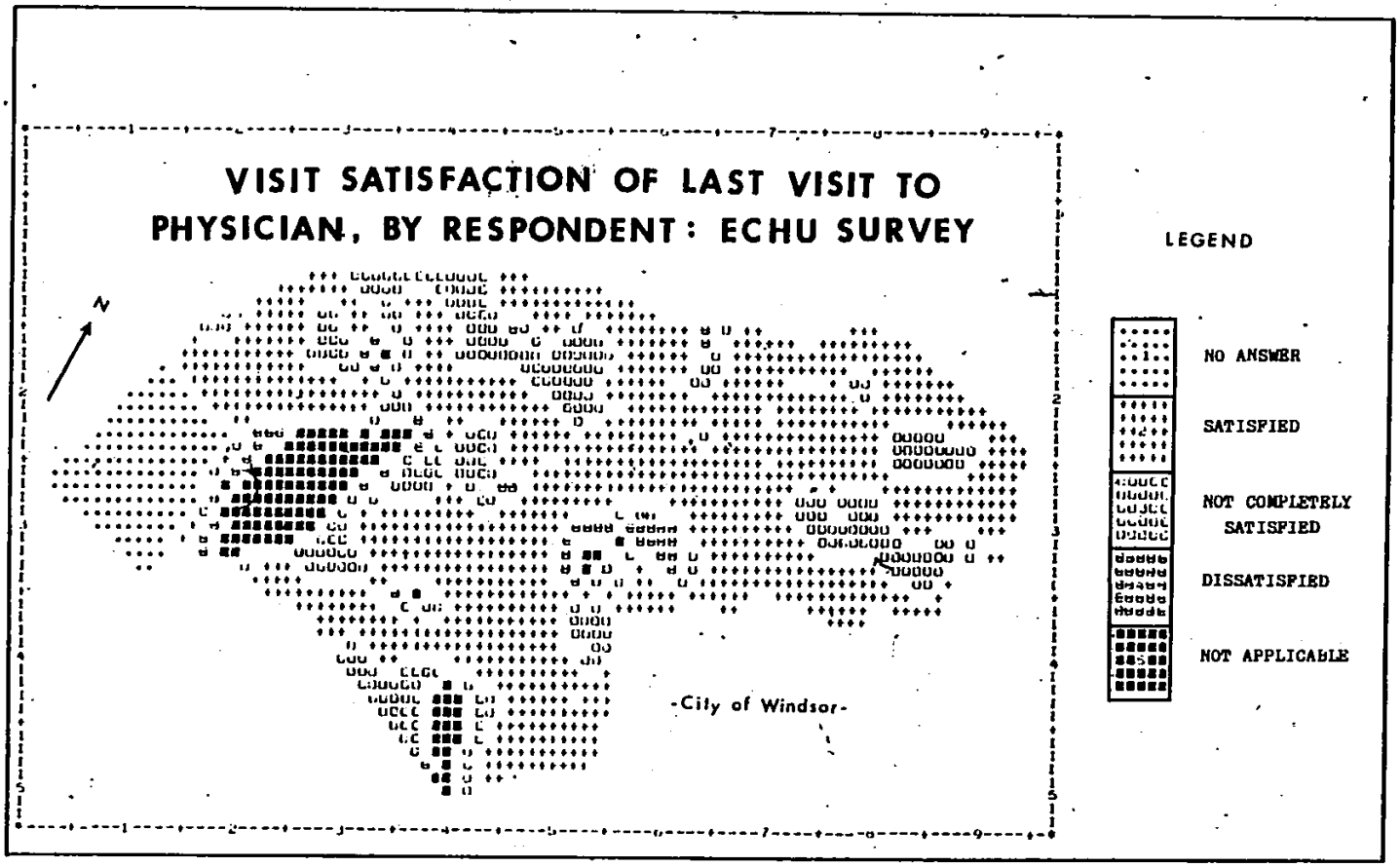


Figure 11

Symap

Source: author

7.5. Use of Hospitals

Hospital use, within the City of Windsor, for non-emergency use is often quite difficult to determine due to respondent perception of "need", and physician perception of "seriousness". The use of hospitals for non-emergency care, or the care that can be received within the doctors' office, is low, with 63 percent of respondents not going to the hospital for this type of care. Emergency care, however, is also reported not used to a great extent, with 61 percent reported not going to emergency room.

Respondents do go to hospitals but not for the reasons mentioned above. Within the total respondent population, 15.9 percent have never been to a hospital for personal care and of those who have been to a hospital, , 54.8 percent report being there over one year ago. With the people who have been to a hospital, 53.8 percent report their reason for going was planned, and 29.8 percent were for emergency reasons. A distribution of respondents shows the location of respondents, relative to the last recorded date of hospital admissions (Figure 12). Overall, there is a random distribution of respondents throughout the city except for those who have never used the hospital. This seems to be clustered in the west end of the city and again is misleading due to the location of the population in relation to the area representation of the data collected.

Respondents cite surgery or childbirth as the main reasons for being within a hospital. This explains 41.8 percent of the respondents, with less essential care being performed (with the exception of some illness and injury) accounting for 28.3 percent

of the answers.

As with the decision time between the thought to go to the doctor, and the actual time of initial contact, there is a decision time to go to the hospital. In the instance of hospital "lagtime", 25 percent of the population stated it took less than one day from the decisio to go to the hospital until the time they actually went, with 47.7 percent of the population going to the hospital within two weeks of a decision. This is the respondents decision to analyze his/her needs and to choose the medical result accordingly, with no decision by the medical profession until actual contact is made. In the case of emergencies, a decision may be made by a professional, or a member of the family, with little or no lagtime involved.

Table 23

REPORTED PHYSICIAN SERVICES WITHIN HOSPITALS, BY RESPONDENT: ECHU SURVEY

VAR24 HEALTHTALK HOSPITAL EMERGENCY ROOM

CATEGORY LABEL	CODE	Absolute Freq	Relative Freq (pct)	Adjusted Freq (pct)	Cum Freq (pct)
Never	1.	183	58.1	61.0	61.0
Less than 2 wks.	2.	17	5.4	5.7	66.7
2 wks - 5 months	3.	16	5.1	5.3	72.0
6 - 11 months	4.	16	5.1	5.3	77.3
1 - 2 years ago	5.	13	4.1	4.3	81.7
2 - 4 years ago	6.	15	4.8	5.0	86.7
Over 4 years	7.	40	12.7	13.3	100.0
	0.	15	4.8	missing	100.0
	TOTAL	315	100.0	100.0	

VAR22 HEALTHTALK HOSPITAL

CATEGORY LABEL	CODE	Absolute Freq	Relative Freq (pct)	Adjusted Freq (pct)	Cum Freq (pct)
Never	1.	187	59.4	63.0	63.0
Less than 2 wks.	2.	19	6.0	6.4	69.4
2 wks - 5 months	3.	25	7.9	8.4	77.8
6 - 11 months	4.	11	3.5	3.7	81.5
1 - 2 years ago	5.	7	2.2	2.4	83.8
2 - 4 years ago	6.	25	7.9	8.4	92.3
Over 4 years	7.	23	7.3	7.7	100.0
	0.	18	5.7	missing	100.0
	TOTAL	315	100.0	100.0	

source: author

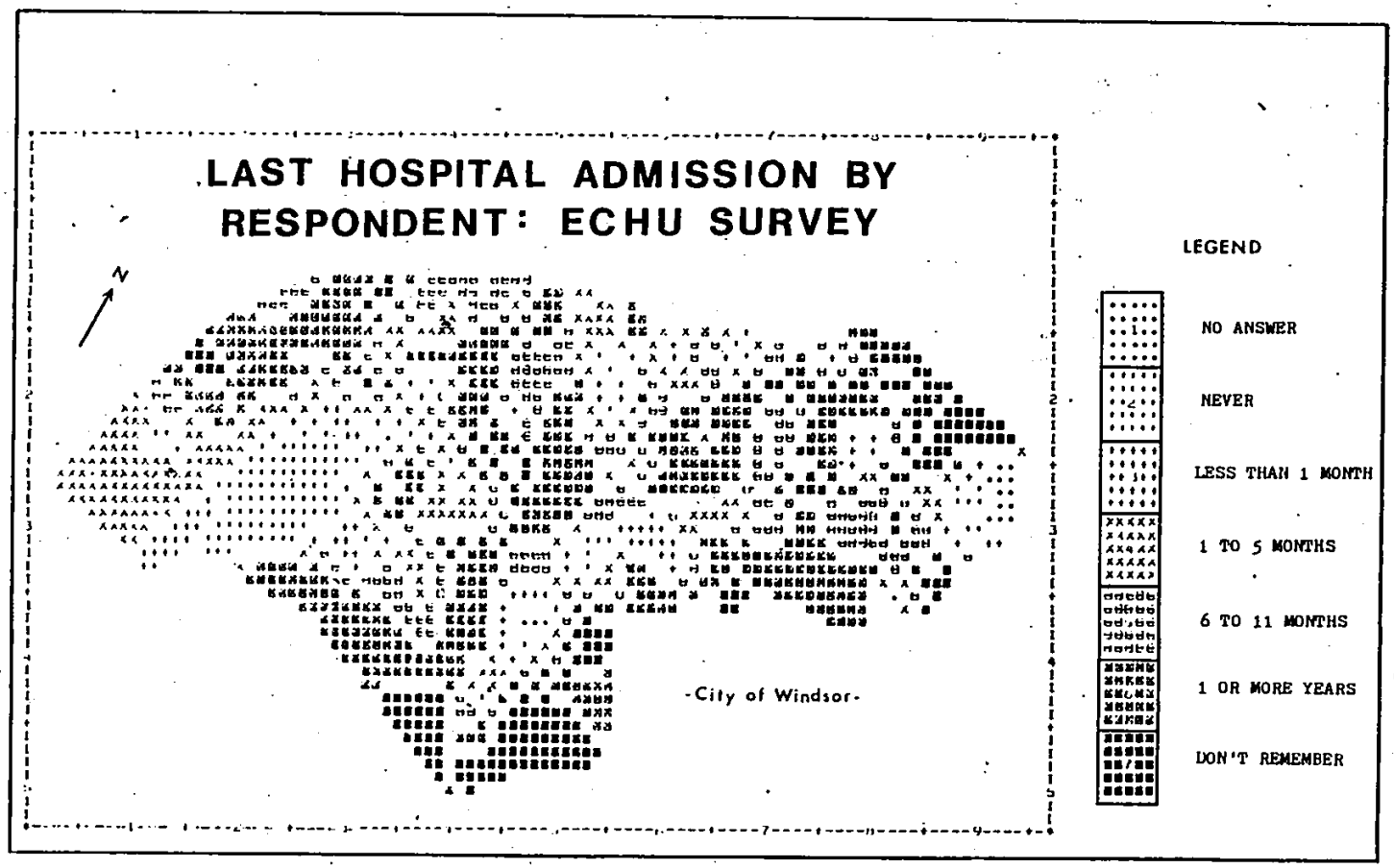


Figure 12

Symap

Source : author

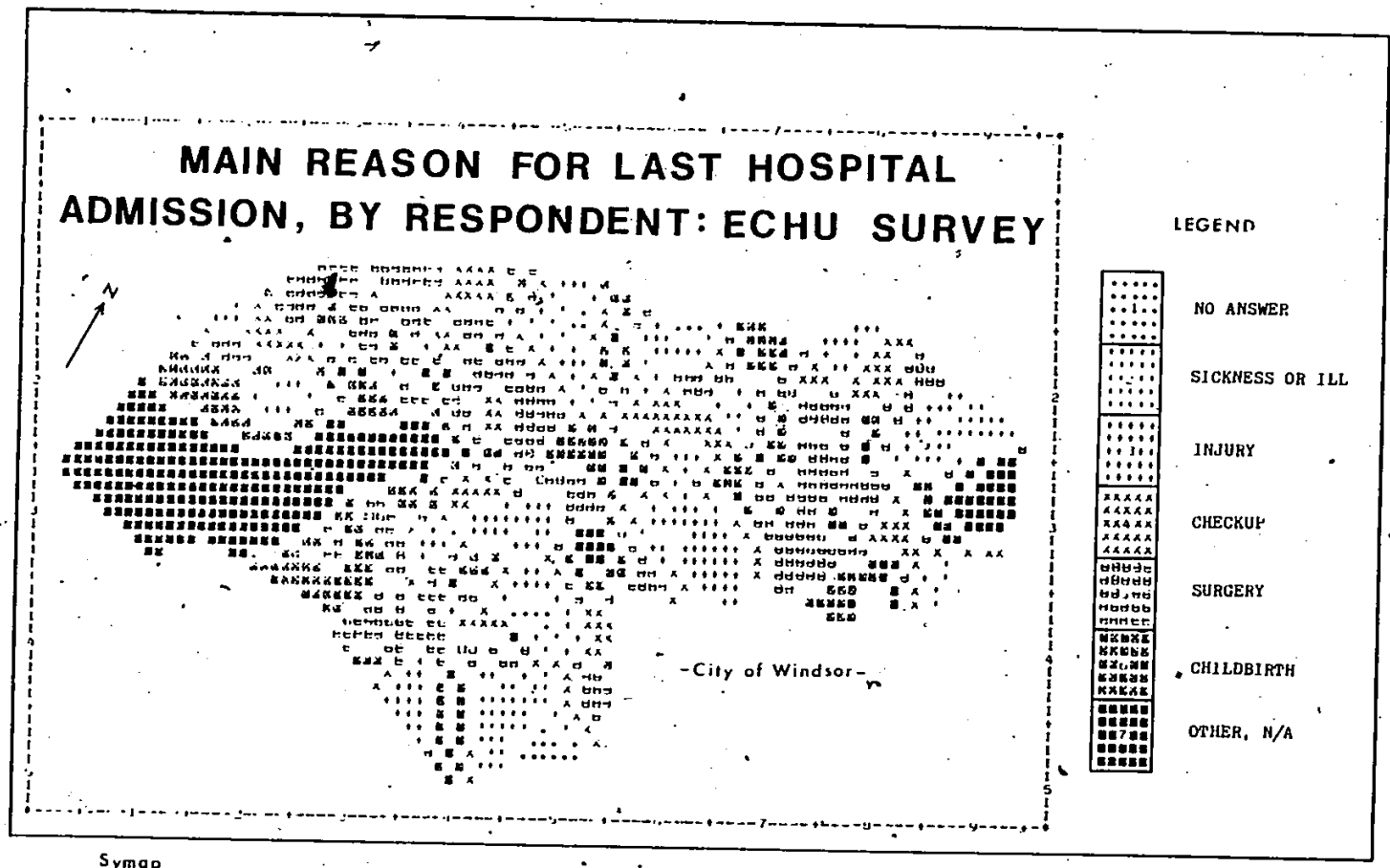


Figure 13

Symap

Source : author

Table 24

HOSPITAL ADMISSION AND DECISION TO ENTER HOSPITAL, BY RESPONDENT: ECHU SURVEY

VAR63 LAST TIME IN HOSPITAL

CATEGORY LABEL	CODE	Absolute Freq	Relative Freq (pct)	Adjusted Freq (pct)	Cum Freq (pct)
Never	1.	50	15.9	15.9	15.9
Less than 1 month	2.	14	4.4	4.5	20.4
1 - 5 months ago	3.	19	6.0	6.1	26.4
6 - 11 months ago	4.	27	8.6	8.6	35.0
1 or more years ago	5.	172	54.6	54.8	89.8
D/R	6.	32	10.2	10.2	100.0
	0.	1	0.3	missing	100.0
	TOTAL	315	100.0	100.0	

VAR64 PLANNED OR EMERGENCY

CATEGORY LABEL	CODE	Absolute Freq	Relative Freq (pct)	Adjusted Freq (pct)	Cum Freq (pct)
Planned	1.	164	52.1	53.8	53.8
Emergency	2.	91	28.9	28.9	83.6
N/A	3.	50	15.9	16.4	100.0
	0.	10	3.2	missing	100.0
	TOTAL	315	100.0	100.0	

VAR65 MAIN REASON IN HOSPITAL

CATEGORY LABEL	CODE	Absolute Freq	Relative Freq (pct)	Adjusted Freq (pct)	Cum Freq (pct)
Sick or ill	1.	46	14.6	14.8	14.8
Injury	2.	33	10.5	10.6	25.4
Checkup	3.	9	2.9	2.9	28.3
Surgery	4.	96	30.5	30.9	52.9
Childbirth	5.	34	10.8	10.9	70.1
Other	6.	38	12.1	12.2	82.3
N/A	7.	55	17.5	17.7	100.0
	0.	4	1.3	missing	100.0
	TOTAL	315	100.0	100.0	

VAR66 LAGTIME - DECISION TO GO TO HOSPITAL

CATEGORY LABEL	CODE	Absolute Freq	Relative Freq (pct)	Adjusted Freq (pct)	Cum Freq (pct)
Less than 1 day	1.	78	24.8	25.2	25.2
1 - 6 days	2.	40	12.7	12.9	38.1
1 - 2 weeks	3.	30	9.5	9.7	47.7
2 - 3 weeks	4.	22	7.0	7.1	54.8
1 - 2 months	5.	39	12.4	12.6	67.4
3 months plus	6.	16	5.1	5.2	72.6
D/R	7.	35	11.1	11.3	83.9
N/A	8.	50	15.9	16.1	100.0
	0.	5	1.6	missing	100.0
	TOTAL	315	100.0	100.0	

Source: author

7.4 Use of Selected Non-Physician Services

Although physician care is used most extensively by the respondent population, other medical care is also reported to be used. Within the study population, 47.7 percent of the respondents reported using at least one of four select non-physician services within the past twelve months. These include: a chiropractor (8.2 percent); an optometrist (43.1 percent); a podiatrist-foot specialist (1.6 percent); and/or a physical therapist (4.7 percent). These figures represent contact for these services, which represent primary care and rehabilatative care to the patient since they are specialized and deal with physical problems that do occur, and may be better handled by select specialist groups within the field of health study.

7.5 Summary

Patient perception of the health delivery system will initially influence the patients' decision to enter it, with future entry and subsequent use dependent upon perceived satisfaction by the patient and influenced by those who make up the health delivery system.

Within the 20 to 64 year age group, 70.6 percent of respondents have seen their doctor at least once within the past year, with 89 percent having a regular doctor. Those who are satisfied with their last visit to the doctor include 62.5 percent of this population even though they wait an average of between ten and thirty minutes within the office. Even with the satisfaction of physician services, this group is not faithful to only one doctor, and 43 percent stated they would consider changing doctors if the service needed was not promptly available to them, with 62 percent of these people actually seeing another doctor for that reason.

There are three major time delays within the utilization of medical services. These include : the delay in the personal decision to see a physician, once need is perceived; the delay through appointment time to see the physician, once verbal contact is made; and, the time spent waiting within the doctor's office prior to professional contact with the physician.

Other delays may also become a factor before utilization of medical services result in the remedy of health needs. Referral to other physician(s) by the personal physician within the past year resulted in 47.7 percent of patients seeing a second doctor,

with probably more delay time in both appointment and office waiting. Not all patients see a specialist when referred, and some patients are referred more than once within the same illness episode.

The main use of hospital facilities includes surgery and childbirth (41.8 percent). The decision to use a hospital is reduced for non-emergency preventive health care that is best performed within the doctors' office. Over half of the respondent population have not used a hospital for over one year, with most of these people, when last using it for planned rather than emergency needs.

People decide to go to a hospital facility faster than they decide to go to a doctors' office due to their perception of the "seriousness" of their health problems or needs, compared to the importance or service provided within the facility. There is less waiting time when entering a hospital, yet the seriousness of problems restricts the high use of preventive care over the use of curative measures within the hospital setting.

The non-physician use indicates high use of optometrists (43.1 percent) within the past year for preventive care, and the use chiropractors, physical therapists, and podiatrists for rehabilatative purposes. Within the City of Windsor, patients, as a result of high usage of primary services, have a good perception of those services offered and are more willing to wait for the services. Looking at the three major areas of waiting delay, patients apparently conclude that waiting is one part of the healing and health care process that is unavoidable, with

special time set aside for the use of medical services. In this case, perceived satisfaction of service outweighs the delay of service within the study population.

CHAPTER 8

CONCLUSIONS

8.1 Summary Conclusions

Accessibility to medical services within this study is measured as a function of time, which includes distance (travel time) to the facility, waiting time, appointment delay and all costs associated with time (chapter 3). Access is divided into two main components : the first being a direct responsibility of the patient, which includes all physical modes of access; and the second including a division between the patient and provider, which takes into account waiting time and appointment delays. Accessibility includes all means one has to get to the service, and does not include the actual use of services.

Viewing all results found within the ECHU survey, access to physician and hospital services within the City of Windsor has been found to be relatively unconstrained, with direct satisfaction stated by most respondents. When the City of Windsor has been divided into separate planning districts (Figure 5), results for each planning district may show variation when compared to the general Windsor results.

It must be noted, however, that through analysis the respondent population was found to be a normal distribution of a stratified random sample. Each planning district shows direct proportion to age and sex in the City of Windsor, as compared to actual figures.

Within the ECHU survey, viewing overall response variables, it can be seen that non-health related patterns arise within the data. The general population views itself to be moderately active to very active (83.3 percent), performing moderate or much exercise (78 percent) at the time of the survey. These figures do seem surprisingly high, when compared to Canadian fitness standards, which includes more "lack of fitness" within the county. The employment status of the respondents implies only 45.9 percent were working outside the home, with one-half of these people representing full-time employment.

Income, directly related to employment, shows an average income of respondents to be approximately 12,000 dollars annually, with 31 percent of all respondents reporting a personal income of less than 6,000 dollars annually, and 33 percent earning over 18,000 dollars annually. Statistically, income when compared to employment factors shows direct correlation with : employed in the last three months (var. 11); what people were presently doing (var. 9); referrals to other doctors (var. 59); and education (schooling) of respondent (var. 8).

Viewing outcome regression correlation statistics, income significantly affects prescription refunds. The lower income groups (below 12,000 dollars annually) show, through cross tabulation, not to have the same access to prescription service plans, as do the higher (over 18,000 dollars annually) income groups. Within the study, 22 percent of respondents pay for prescriptions out of their own pocket, with 48.8 percent paying a portion or most of the prescription. Only 15 percent of the

population pay no direct cost for prescription charges. This would be much higher if the study group included those 65 years of age and over.

Education, aside from having a direct correlation with income, shows a significant relationship with business type (var. 12) and occupation (var. 13). The relationship between income and education, when viewed on a closer scale shows as education rises, so does the significance of income, and as education levels rise, so does the quality of the occupation type and employment stability. Income and employment, although correlated, show no significant relationship with the use and non-use of services. This may be unique to the Windsor area due to creative medical influences that were established within the city.

In 1919, the first health unit in Canada was established in Windsor. Due to the high concentration of the auto industry in Windsor and also the affiliation of some physicians to the hospitals in the Detroit area, Windsor Medical Services Inc. became the first doctor-sponsored prepaid community medical plan in Canada, and the forerunner of OHIP in Ontario. Although Windsor Medical was established in the mid 1930's, the first group agreement was signed in July, 1939, and the plan covered physicians' services only. Doctors, in the early 1970's also by grouping together, raised capital to construct the largest medical building in the city, at 700 Tecumseh Road East. The building is still owned by doctors, and offers a complete medical service package; such as lab facilities, dental and optometrist

services and drugstore and eating services. This building also has parking for the convenience of patients and is centrally located geographically in Windsor for ease of access.

Pharmacist services in Windsor has lead to the creation of Prescription Services Inc. (1958, and the first of its kind in Canada) which later became Green Shield Prepaid Services Inc., which today offers 40 different extended health care plans and has branch offices in other Canadian provinces. The banding together of pharmacists in Windsor had established another Canadian first, which was the Big V drug chain, the first Canadian-owned chain of drugstores. This began in 1962, and through mass purchasing and standardization of products, they were able to offer lower prices and more variety of goods.

Through all of the above examples, Windsor is unique as a pioneer of health services and extended health care plans offered, when compared to the whole of Ontario and Canada.

The reasons stated previously reflecting upon income and education while viewing the establishment of health services plans in Windsor may have a greater influence on the health education of the patient. People in Windsor may be more aware of the sevices available and therefore many may take more advantage of these services, regardless of their formal education or income group. The use of medical services plans has been part of union contracts in the manufacturing sector of Windsor which has upgraded the health quality of the worker and his family, as compared to the whole of Canada. Nevertheless this same process may have led to less competition in the health professions and

hence less differentiation between first class and less satisfactory practitioners.

Respondents state that most health coverage is sponsered by OHIP, with little private coverage reported. Ten percent of respondents do not have OHIP coverage, with 23 percent of respondents on premium assistance, and 55.9 percent paying totally for the OHIP service. Ontario statistics (1980) show that population statistics for premium assistance to be 23 percent, in which 25 percent of these people are on welfare, or low income, and one-half are over 65 years of age (Timbrell, 1980,7).

Those who do not have OHIP coverage when viewed through correlation do not significantly use medical services less than those who do have this coverage. These people may have alternative plans available to them, or pay out of their own pocket, but they still use medical services. OHIP has upgraded their regulations on the use of services that will indeed restrict some use (the number of visits the doctor is allowed to bill permonth). These restricions will not have a significant effect upon this study group since 72.5 percent of the study population went to see a doctor four or less times within a twelve month period, and 82 percent visited the doctor six or less times. These regulations may have more effect upon those 65 years or older, and under 20 years, especially children under three years old, as in both cases medical need is higher and usually determined more by the physician.

Socio-economic factors were not directly studied within the

City of Windsor due to the complexity of all factors, even though some of the factors were studied on an individual basis. With the randomness and normality of data, it is expected that socio-economic factors will not influence the relationshop of the study results. Access in terms of socio-economic factors would best be explained by medical sociologists as a separate study to this paper, viewing all age groups along with both personal and family income, and family structure within the home by the patient.

Within the City of Windsor, patient satisfaction within the population studied is high for last visit to physician (63.1 percent), indicating an overall satisfaction with the services offered. Both mutable properties (those properties of the system that can be altered) and immutable properties (cannot be changed) make up the population at risk, and can alter the utilization or satisfaction with health care.

Satisfaction is a function of utilization. The individual's utilization experiences will reinforce his perceptions and satisfaction with the health care system and will affect his future use of health services.

When predicting health and illness behaviour, it is assumed that differences in satisfaction will influence access and utilization behaviour. This feedback reflects the validity and importance of the process indicators that affect whether or not entry into the system is gained. Personal health is closely related to emotional factors, with clients and professionals evaluating "need' differenty. Two components of the use of

service are : initiation, and continuation.

Respondents indicate they were satisfied with their last visit to the doctor (63.1 percent were satisfied, 24.5 percent were not completely satisfied, and 5.1 percent were disatisfied). The waiting time within the physicians' office shows 70.2 percent of respondents waited up to 30 minutes, with 46 percent waiting up to 20 minutes, and 16.7 percent waiting under 10 minutes. Patients either do not mind waiting in the office, or they feel it is part of the health care process, with 65 percent not feeling the wait was too long.

The use of group practice and the creation of laboratory facilities in medical buildings (rather than only in hospitals) has lead to the less over-use of hospital facilities for non-essential services in Windsor. The role of lab tests and labs in medical buildings has meant less referrals to hospitals and less use of hospital lab facilities by the patient, with faster results and higher efficiency by the medical practitioner. People make the highest use of referrals and laboratory facilities within the same medical building (if they are available) than they do from outside the building, when plotting of referrals are compiled. The highest use of one single medical building in Windsor is the Windsor Health Centre, located at 700 Tecumseh Road East, which includes a total array of medical and non-medical functions.

Ontario, having the structure of socialized medicine, protects those who have a lower income status, with subsidized OHIP caverage. Lower income groups, when studied as a whole, and

also viewing each planning district, shows no significant high usage of hospital facilities as apposed to use of physician facilities. Under the health care subsidy by OHIP, low income patients can receive health services from both a hospital or a physicians' office, but viewing the quality of service along with a better network of referrals etc., it becomes more evident that the use of services is more acceptable outside the hospital for non-essential care.

With the benefits of the Windsor Health Centre, and the introduction of medical services care and insurance in Windsor prior to those introduced in Ontario and Canada, the expansion of these types of care in the city has shown unique results, when compared to the literature findings. Through the use of the ECHU survey, it has been found that there is not a greater use of hospitals for non-essential care rather than going to a physicians' office. Aside from this, women do not use medical services significantly more than men (in the study group) due to the possible introduction of medical services in the unionized manufacturing industries in Windsor. This, however, should be studied further and separately due to the higher use of physician services by woman, especially interraction related to child-bearing.

8.2 Overall Patterns of Health Service Use

According to Lalonde (1978), "at least one-half of all Canadians report one health problem". Within the City of Windsor, 22 percent of respondents report never having any type of health problem, with 40.3 percent having at present up to two conditions. The average duration of illness for respondents is four years (47.6 percent) and at present 38.7 percent of the respondents report not having a current medical problem.

In 1982, the City of Windsor had an average of 310 physicians active in the health care system, of which 148 (47.7 percent) were general practitioners. Eighty-five percent of all doctors practiced within two kilometers of a hospital facility (author, 1979). Within the study population, 70.6 percent of respondents have gone to see a physician professionally during the past twelve months, 71 percent left from home (as opposed to other places such as work, shopping), 67 percent had taken their own car as a means of transportation, and 84.7 percent had travelled up to 29 minutes to arrive at their destination. Of the study population, 89 percent report they have a regular physician, and 73 percent report this physician is a general practitioner.

Regression analysis and cross-tabulation show two patterns arising when relating the specific doctor one goes to (var.52), with other select variables. The first pattern shows a significant relationship between the specific doctor and the physician being within a group practice, along with how the doctor was chosen. Further insight using satisfaction and number of visit variables shows less time spent waiting in the office

and more visit satisfaction within group practice (as opposed to single practice) by respondent may relate to more favorable referrals to that doctor by respondents (53 percent of respondents relate their doctor was chosen through a relative or friend).

The second pattern shows a more medically based pattern of health service use, viewing the relationships between the specific doctor one goes to and conditions contracted, such as average duration of illness along with whether the doctor is a general practitioner or a specialist. Further insight shows that within the 89 percent of respondents who have a regular doctor, 15.2 percent report this physician is a specialist. Within this percentage (89%), over one-half of resopndents who have reported medical illness, go to a specialist and of those who have a longer duration of illness (over two years), over one-half report having a specialist as a main doctor.

The four main hospitals within Windsor are located relatively close together, but are not central in relation to population and population growth within the city. The total number of hospital beds within these four institutions have decreased between 1981 and 1982, with a loss of fourteen beds, bringing the total number in 1982 to 1568. Within this total, there are 278 chronic care beds and 85 pediatric beds. Neither of these categories are open to use by those within this study group due to the study restrictions of the respondent population. There are. 879 beds allotted for medicine and surgery, with 86 beds allotted for maternity care.

In the study group, 15.9 percent of respondents have never been to a hospital for personal medical reasons, with 19.2 percent going to a hospital facility within the past twelve months, and 54.8 percent who have not been to a hospital for over one year. Most admissions into the hospital are planned (53.8 percent, opposed to 29.8 percent being emergencies). Although a high percentage of respondents report having a regular physician, 63 percent of respondents report they have never gone to a hospital to talk to a physician professionally instead of going to a doctors office, and 61 percent say they have never reported to a hospital emergency area, instead of going to a doctors office, for minor emergency needs. The main reasons given for going to a hospital include: sickness or injury (25.4 percent); planned or unplanned surgery (30.9 percent); childbirth (10.9 percent); and for a regular checkup and follow-up visit (2.9 percent).

In the decision to go to a hospital, 47.7 percent of respondents report it had taken up to two weeks from the actual decision to go to the hospital, until the trip was made, with 25.2 percent going within one day.

The dependent variable, travel time to doctor (var 37) explains two groups of independent variable patterns of health service use. These groups include: 1) decision to see the doctor, and reason for the last visit to the doctor; and 2) the last professional visit to a group practice, and the personal physician being part of a group practice.

The data shows that respondents who live further from hospital facilities generally took longer to decide to make an

appointment to see a physician. The reason for the last visit to a physician by this group shows a slightly higher percentage of illness and use for preventive purposes, than for other (closer) areas throughout the city. Although no defined pattern arises within the city with respect to lagtime once an appointment has been made, the decision to enter the health services field by patients from the east side and south end of Windsor, shows a higher proportion of delay time as compared to other areas within the city. A probable reason for this may be the lack of close medical facilities which could create a negative perception of time delay prior to actual contact with the physician.

The second group, relating to group practice, as significantly related to travel time to doctor exhibits most respondents having a general practitioner as a main physician (73 percent), with 65.6 percent of the physicians being within a group practice. Variables including the number of visits to other doctors within the past twelve months and the use of other physicians rather than the personal physician, were ranked with high positive correlation to the use of group practice physicians showing a significant relationship exists between variables. Therefore, here it is inferred that respondents are willing to use other physicians, and in the past have gone to other physicians for the same services administered by their doctor. With the high use of group practice and general practitioners, it is stated that the users of "other doctors" by respondents is usually within the same group practice, rather than with another physician office.

Within the City of Windsor, 51.6 percent of respondents have entered the referral process (15.1 percent did not enter the process and 48.4 percent are not applicable). The personal physician has referred 36.5 percent of this group to at least one physician, which would either be another general practitioner (15.7 percent) or a specialist (34.8 percent). With the centralization of physicians within and around hospitals and lab facilities (this includes 85 percent of all doctors), the extra travel time incurred is not significant enough to change the relationship between the variables.

8.3 Major Findings — Tests of Hypotheses

Hypothesis 1

Within the study population, 30 percent of 309 respondents had visited a doctor within the past twelve months (98 percent), with 68.5 percent of respondents relating their frequency of visit to the doctor. The majority of respondents spent 15 to 29 minutes travel time to arrive at the doctors office (52.1 percent) with 33.6 percent travelling under 15 minutes. These trips to the physician include 52.8 percent of respondents making under two trips within the past year, 37.4 percent making bewteen three and six trips, and 9.7 percent making over trips to the doctor.

Travel time, as a dependent variable (var 37) shows no significant relationship with the number of visits (var 56) within the past year, when reviewed through regression analysis,

Beta	- 0.145
T	- 0.953
Sig. T	0.348

It is seen therefore the perceived distance for respondents is not a major factor that influences one's decision upon going to a doctor. Therefore hypothesis 1 is rejected.

Hypothesis 2

Visit satisfaction (var 42) was used to determine the quality of service. Distance convenience (var 37) and means of travel (var 36) were studied through correlation analysis, and showed no significant relationship between the variables.

Therefore the quality of service does not outweigh distance convenience as the primary determinant of consumer travel. Hypothesis 2 is rejected.

	Beta	T	Sig. T
Var 37	-0.036	-0.142	0.888
Var 36	-0.047	-0.121	0.849

Viewing the variables through cross-tabulations, visit satisfaction and subsequent non-satisfaction by respondent are not grouped around any particular area within Windsor and dissatisfaction by respondent is not related to longer travel time to the doctor.

Hypothesis 3

General health of respondent within the last month (var 15) was compared with the use of medical services (decision to see the doctor (var 19), main reason in the hospital (var 65), number of visits to the doctor in the past twelve months (var 56), and the last time in a hospital (var 63)), showed a significant relationship between the dependent variable and all independent variables. Therefore the hypothesis is accepted, stating that people who perceive ill health are more likely to enter the health services field (physician and hospital) than those who perceive themselves to be in relatively good health.

	Beta	T	Sig.T
Var 19	1.730	.910	.369
Var 65	.133	1.707	.097
Var 56	.539	1.144	.886

Var 63	.495	1.107	.270

Hypothesis 4

Education of respondent within the study group shows 64.5 percent of respondents are below the post secondary level, and 35.5 percent are over post secondary levels of education. The highest grade completed (by percent) is grade 12, having 26.3 percent of total respondents.

Self-maintenance (decision to see the doctor (var 31), reason for the last visit to the doctor (var 19), physical activity (var 16) and recreational activity (var 17)), all show no significant relationship when compared with completed grade of education (var 8) of respondent. Therefore, education shows no direct relationship to preventive health service due to better self-maintenance.

	Beta	T	Sig.T
Var 31	.06	.51	.61
Var 19	.40	.33	.74
Var 16	.03	.17	.87
Var 17	.03	.18	.86

Through the variables tested, hypothesis 4 is rejected.

There may exist an effect of improper balancing within the variables, whereby the higher educated may have higher income, better information patterns etc., but the poorer educated may have more health problems (nutrition, lack of preventive medicine and drugs, etc.). Through testing, this pattern appears to occur, with the higher educated working more outside the home,

working within the past three months prior to answering the survey, and being physically more active when compared to the less-educated respondents.

Hypothesis 5

"Women use available health services more than men" (Coburn, 1981, 343) is tested among the select study population within the City of Windsor, to show if similiarity exists between the two studies. Variables used to derive the use of health services, tested with sex (var 02) as a dependent variable, include: decision to see the doctor (var 31), reason for the last visit to the doctor (var 19), Healthtalk in a private doctors office (var 20), healthtalk in a group practice (var 21), perception need for a chechup (var 18), and, main reason in a hospital (var 65).

In all cases, the relationships between the variables are not significant with respect to the sex of the respondent. Therefore, women do not use available health services significantly more than men for the study population 20 to 64 years of age.

	Beta	T	Sig.T
Var 31	-0.12	-0.67	0.50
Var 19	-0.17	-0.91	0.61
Var 20	-0.09	0.52	0.61
Var 21	0.19	-1.04	0.30
Var 18	-0.005	-0.97	-0.03
Var 65	-0.53	-1.71	0.97

The hypothesis is therefore rejected.

Coburn, 1981, when viewing use of health services studied the total population and not only one specific group. If the age group had been extended past 64 years, taking into account the higher proportion of females within Windsor, the results might change significantly to accept the hypothesis.

Hypothesis 6

Consumer satisfaction (var 42) as a dependent variable is directly related to the frequency of visits to health services (var 56).

Var 56	Beta	0.09
	T	0.83
	Sig.T	0.42

Respondents, since most are satisfied with the service received, use the service more and are willing to use the service more than those who are dissatisfied with the health care system in Windsor. Therefore, the hypothesis is accepted.

Hypothesis 7

Respondents not covered by medical insurance (10 percent) do use medical services less than those on medical coverage when viewing the two groups, but this difference in use is not significant between the two groups. All relationships associated with medical insurance coverage and costs of perscriptions are not significant, when studied through regression analysis with number of trips to physician (var 56) combined with the last time a respondent was in a hospital (var 65) as a dependent variable.

Insurance variables include: private medical insurance (var 68), OHIP coverage (var 67), other medical coverage (var 71), cost of prescription (var 72), disability insurance (var 70), workmans compensation (var 69), and prescription refund (var 73).

	Beta	T	Sig.T
Var 68	0.079	0.561	0.578
Var 67	-0.250	-1.720	0.090
Var 71	-0.090	-0.566	0.575
Var 72	-0.305	-1.800	0.080
Var 70	-0.233	-1.286	0.207
Var 69	-0.010	-0.061	0.955
Var 73	-0.410	-2.804	0.007

Hypothesis 7 is therefore rejected.

Hypothesis 8

Within the study, the use of selected health services (the number of doctor visits within the past year (var 56), reason for the last visit to a doctor (var 19), the last time in a hospital (var 63), and the main reason in a hospital (var 65), does not significantly increase with age (var 01) as age increases from 20 to 64 years. However, medical services from others (var 62), the decision to go to a doctor (var 31) and visit satisfaction (var 42) are all significantly affected by age, as age increases from 20 to 64 years.

Therefore, primary health services are not significantly affected by age, as age increases, but medical service from other than a primary care physician is significantly affected by age.

Hypothesis 8 is therefore rejected.

	Beta	T	Sig.T
Var 56	0.004	0.014	0.988
Var 19	-0.050	-0.321	0.754
Var 63	0.039	0.101	0.919
Var 65	0.010	0.053	0.962
Var 62	0.269	1.523	0.137
Var 31	0.147	0.912	0.364
Var 42	0.136	0.690	0.493

Hypothesis 9

The relationship between travel time to facility (var 37) and the last time in a hospital (var 63), shows a significant relationship exists between the two variables, and therefore the hospital is relatively central, as perceived, to those who use it. Hypothesis 9 therefore is accepted.

Var 63	Beta	0.44
	T	0.86
	Sig.T	0.39

Hypothesis one showed no significant relationship between travel time and the number of visits to a doctor. In hypothesis nine, viewing use of hospitals, people are close to hospitals and therefore use them. This relationship may not be as significant as stated due to the coincidence of the location of all hospitals being central to the population within the City of Windsor. A two kilimetre radius circle around each hospital will consume over one-half of the population of the city, with three of the

hospitals being within high density planning areas. People do not have to travel far to get to a hospital, and therefore hospitals are relatively central to the population.

8.4 Practical Implications of the Study Findings

The conclusions presented, even with many of the tested relationships being non-significant, are very useful when presented to health planning agencies within the City of Windsor (Essex County District Health Council; Metro Windsor-Essex County Health Unit; and the Department of Social Services within the City of Windsor). Information gathered from the view of the consumer has an impact on the health services field. These services are created for consumer use, and the view of the consumer provides input concerning present health care standards and use of services.

The questions raised and implied answers brought foreward leave avenues for the completion of future research. As a useful direction of health research, the study of consumer related responses, needs and satisfaction uses a new dimension or view of the study of the health care system. The use of a questionnaire to attempt to identify individuals' thought processes is the only method to obtain consumer data, which is directly related to both use, and non-use of health services.

As a base for future research, this study acts as a data source for comparison to future studies within this geographical area, and areas of health study research.

Future research should be carried out, including a study of all age groups, due to the higher proportion of elderly within the City of Windsor, and Essex County, when compared to the national average. Aside from this, future research should study the Essex County health planning area, including all rural-urban

differences and influences with respect to travel time to doctor, consumer satisfaction, and health use rates.

The study findings would also be useful in future health policy formation within the areas concerning the access to, and utilization of health services, viewing methods to enhanse consumer satisfaction, knowing perception and perceived needs of the consumer, while also knowing the limitations of health budget and present policy.

Using this data base, future research should be completed, looking at both the health care practitioner and the patient, viewing his socio-economic background in the City of Windsor. A direct survey of physicians assembling their needs and perceptions is useful in determining the effects of utilization and how the system can be altered for higher efficiency at lower costs for both patient and provider. A breakdown of physician by type or specialty is useful in viewing overall use of services.

Socio-economic factors, as a separate study should look at all separate planning areas in the city, viewing areas of growth and decline and the total usage of the health care system. This paper, as a tool within the scope of preventive care, should be used as a better understanding of consumer use patterns of the use and non-use of the health care system. Results can be used to make methods and programs more efficient in scope for better education of the public with respect to health care in the home, and an understanding of those services available in the office and the hospital.

8.5 Limitations

The limitation of the scope of this study includes the inavailability of data due to the high time and money costs of survey research, and to the restrictive nature of government health agency data. Limitations also include the restrictive study area and study groups. In addition, many socio-economic factors were generalized due to the limitations of data.

Sampling error can occur throughout the research, especially dealing with population surveys and perception variables. The patient tends to overestimate his complaint, compared to medical assessment of the same problem.

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APPENDIX A: HOUSEHOLD INTERVIEW SURVEY

UNIVERSITY OF WINDSOR

WINDSOR, ONTARIO N9B 3P4

TELEPHONE: AREA CODE 519
253-4232

Dear Sir/Madame:

The following questionnaire is part of a Master of Arts thesis sponsored by the Department of Geography, University of Windsor and collectively supported by the Metropolitan Windsor-Essex County Health Unit, the Essex County Medical Society and the School of Nursing, University of Windsor.

This survey aims to gather specific statistical information related to health and health care among the residents of Windsor and Essex County, in order to aid in its future planning activities. This survey has been carefully prepared under the supervision of the Department of Geography and the School of Nursing, University of Windsor.

During the next two months, over 2,500 Essex County residents between the ages of 20 to 64 will be interviewed. No names are required for this questionnaire. All information shall be transformed into statistics and individual privacy will be complete.

The final report will be submitted to the Department of Geography in May, 1981 and copies can be viewed at the Leddy Library or the Department of Geography Map Library, on the University of Windsor campus.

Your cooperation in answering the questions as fully and accurately as possible will be greatly appreciated.

Yours Sincerely,

J.C. Ransome, Ph.D.
Thesis Advisor,
Urban Studies

A. Blackbourn, Ph.D
Departmental Chairman

D.J. Maceyovski
Project Manager

M.L. Monaghan, M.A. NSG.Ed.
Nursing Advisor,
School of Nursing

1981 ESSEX COUNTY HEALTH UTILIZATION SURVEY

NOTICE: All information which would permit identification of the individual will be held in strict confidence, will be used only by persons engaged in and for the purposes of the survey, and will not be released to others for any purpose.

1. What is your year of birth?	
2. What is your sex?	___Male ___Female
3. What is your marital status?	___Married ___Separated ___Single ___Common-law ___Widowed ___Divorced
4. What ethnic group do you feel you belong to?	___Canadian ___British ___French ___Italian ___German ___East European (Polish, Ukrainian) ___Southern European (Greek, Spanish, Yugoslavian, etc.) ___Northern and Western Europe ___Other (specify)_____
5. What language is most commonly spoken in your home?	_____
6. What religion, if any, do you practice?	___Protestant ___Roman Catholic ___Orthodox ___Jewish ___Moslem ___Hindu ___Buddhist ___None ___Other (specify)_____
7. How long have you lived at your present address?	___Less than 1 year ___1 - 5 years ___6 - 10 years ___11 - 15 years ___16 - 20 years ___over 20 years

8a. What is the highest grade or year of regular school you have ever attended?	___None Elementary 1 2 3 4 5 6 7 8 High School 9 10 11 12 13 Post Secondary 1 2 3 4 5+
b. Did you finish this grade (year)?	___Yes ___No
9a. What were you doing MOST of the past 3 months - keeping house, working outside the home, or doing something else?	___Working *(SKIP TO 9d)* ___Keeping house *(SKIP TO 9c)* ___Something else
b. If something else, what were you doing?	___Layoff ___Retired ___Student ___Ill ___Staying home ___Looking for work ___Unable to work ___Other (specify) _____
c. Were you employed AT ANY TIME during the past 3 months?	___Yes ___No *(IF NO, SKIP TO 10b)*
d. When you were working, did you usually work full time or part time?	___Full time ___Part time
10a. Did you work at any time last week or the week before?	___Yes ___No *(IF YES, SKIP TO 11a)*
b. Even though you did not work during that time, do you have a job or business?	___Yes ___No
c. Were you looking for work or on layoff from a job?	___Looking ___Layoff ___Both *(SKIP TO 12)*
11a. What kind of business or industry is this?	
b. What kind of work were you doing?	

12. What is your income group? (personal income)

___Less than $6,000
___$6,001 to $12,000
___$12,001 to $18,000
___$18,001 to $30,000
___$30,001 to $42,000
___$42,001 to $54,000
___$54,001 and over

GENERAL HEALTH

13. How would you note your health, generally, during the past month?

___Poor ___Excellent
___Fair ___Don't know
___Good

14. In your usual way, aside from recreation, are you physically very active, moderately active, or quite inactive?

___Very active
___Moderately active
___Quite inactive

15. In things you do for recreation, (sports, hiking, dancing, and so forth, do you get much exercise, moderate exercise, or little or no exercise?

___Much exercise
___Moderate exercise
___Little or no exercise

16. How important do you think it is for people to have a regular physical check-up, very important, fairly important, or hardly important at all?

___Very important
___Fairly important
___Hardly important
___Don't know

The researcher would like to ask you a number of questions about doctors, hospitals, and other people who might give you medical care, just how you use them, and what your opinion is on some questions about medical care.

YOUR ANSWERS WILL BE KEPT CONFIDENTIAL.

DOCTORS

17. What was your MAIN reason for your last visit with a doctor? (Check one only.)

___A sickness or injury -- What was the problem?

_____

___An injury -- What was the problem?

_____

___A follow-up visit
___A regular checkup
___An injection
___Other (specify)_____

18. When was the last time you talked to a doctor about your own health....	Never	Less than 2 weeks ago	2 weeks through 5 months ago	6 through 11 months ago	1 but less than 2 years ago	2 through 4 years ago	5 or more years ago
a. at a private doctor's office?....	—	—	—	—	—	—	—
b. at a group practice (2 or more doctors at one practice)?.....	—	—	—	—	—	—	—
c. at a hospital outpatient clinic?.	—	—	—	—	—	—	—
d. at a company or industrial clinic?	—	—	—	—	—	—	—
e. at a hospital emergency room?....	—	—	—	—	—	—	—
f. at home?.....	—	—	—	—	—	—	—
g. over the telephone?.....	—	—	—	—	—	—	—
h. in any other way? - (specify)....							

19. Has a doctor ever told you that you had any of the following conditions?	Yes	No	Do you still have it? Yes	No	Don't Know	How many years ago did you first have it?
a. Arthritis						
b. Gout						
c. Asthma						
d. Chronic bronchitis or Emphysema						
e. Tuberculosis						
f. Rheumatic fever						
g. Heart murmur						
h. Heart failure						
i. Heart attack						
j. Stroke						
k. A peptic, stomach, or duodenal ulcer						
l. Recurrent or chronic enteritis						
m. Colitis (spastic colon, mucous colitis)						
n. Gallstones						
o. Hepatitis						
p. Chronic cough						
q. Pleurisy						
r. High blood pressure ..						
s. Hay fever						
t. Allergies to food						
u. Hives						
v. Other allergies						
w. Polio or paralysis ...						
x. Hiatus hernia of the diaphragm						
y. Kidney disease or kidney stones						
z. Malignant tumor or growth						
aa. Benign tumor, growth, or cyst						
bb. Trouble with blood not clotting properly ...						
cc. Nervous breakdown						
dd. Fracture of hip						
ee. Fracture of wrist						
ff. Fracture of spine						
gg. Fracture of any other bone						

20a. For the last visit, how long was it from the time you decided you should see a doctor until you actually saw him?

___Less than one day
___1 - 6 days
___1 but less than 2 weeks
___2 - 3 weeks
___1 - 2 months
___3 months or more
___Don't remember

b. Did you have an appointment to see him?

___Yes
___No *(IF NO, SKIP TO 21)*

c. How long was it from the time you made the appointment until you saw him?

___Less than one day
___1 - 6 days
___1 but less than 2 weeks
___2 - 3 weeks
___1 - 2 months
___3 months or more
___Don't remember

d. Was this time longer than you would have liked?

___Yes
___No
___Don't remember

21. From what place did you leave to go to the doctor?

___From home
___From work
___It was a home visit by the doctor *(SKIP TO 27a)*
___From some other place (specify)_____

22. How did you get from there to the doctor?

___Walked ___Own car
___Bus ___Ambulance
___Cab ___Someone else's car
___Other means (specify)
_____

23. How long did it take to get there?

___Less than 15 minutes
___15 to 29 minutes
___30 to 59 minutes
___1 hour or more
___Don't remember

24a. When you visited the doctor last, how difficult was it for you to get there?

___Very difficult
___Somewhat difficult
___Not difficult at all

b. If difficult, why was it difficult?

_____

25a. At the last visit, about how many minutes did you have to wait before being seen by a doctor?

_____Minutes

b. Do you think this wait was too long?

___Yes
___No

26. How well satisfied were you with this visit?

___Satisfied
___Not completely satisfied
___Dissatisfied
___No opinion

27a. During the past 12 months, have you had a health problem which you would have liked to see a doctor about but did not for some reason?

___Yes
___No
(IF NO, SKIP TO 28)

b. What was the reason you did not see a doctor?

	Yes	No
i. Lack of confidence in available doctors	___	___
ii. Didn't have time	___	___
iii. Would cost too much	___	___
iv. Couldn't get an appointment	___	___
v. Would have to travel too far	___	___
vi. Didn't have a way to get there	___	___
vii. Was afraid of finding out what was wrong	___	___
viii. Didn't have anyone to care for children or other family members	___	___

28. Is there ONE particular doctor or place you usually go when you are sick or when you need advice about your health?

___Yes
___No *(IF NO, SKIP TO 36)*

29. If you couldn't see this doctor, is there some other particular doctor you would want to see if something were bothering you?	___Yes ___No ___Don't know
30. How did you choose this doctor or place?	___Another doctor ___Relative/friend ___Medical bureau ___Telephone directory ___Other (specify)_____
31. Is this doctor a general practitioner or a specialist?	___General practitioner ___Specialist -- What kind of specialist is he? _____
32a. What is the address of this doctor? (mapping purposes only)	_____
b. During the past 12 months, how many times did you see or talk to this doctor professionally?	___Visits ___None
c. Is this doctor part of a group practice - does he work with 2 or more other doctors and share the same equipment?	___Yes ___No ___Don't know
33a. Besides this doctor, during the past 12 months have you seen any other doctor(s) regarding your health?	___Yes ___No
b. During that period, how many (other) doctor(s) have you seen?	___Doctor(s)
c. Did your doctor EVER refer you to this doctor?	___Yes ___No
d. Did your doctor EVER refer you to ANY of these other doctors?	___Yes ___No
e. Did your doctor refer you to ALL of these other doctors?	___Yes ___No

34. Is this doctor(s) a general practitioner or a specialist?	___General practitioner ___Specialist -- What type of specialist is he? _____
35. What is the address of this general practitioner(s)/specialist(s) (mapping purposes only)	_____ _____ _____
36. During the past 12 months, have you received any services from any of the following persons?	___A chiropractor ___An optometrist ___A podiatrist or chiropodist ___A physical therapist
HOSPITALS 37. When was the last time you stayed in a hospital overnight or longer?	___Never *(SKIP TO 41)* ___Less than 1 month ago ___1 - 5 months ago ___6 - 11 months ago ___one year ago or more ___Don't remember
38. Was this hospital stay on account of an emergency or was it planned in advance?	___Planned ___Emergency
39. What was the MAIN reason you went into the hospital that time?	___Sickness or illness ___Injury ___Surgery ___Checkup ___Child birth ___Some other reason (specify) _____
40. How long was it from the time it was decided you needed to go into the hospital until you went in?	___Less than one day ___1 - 6 days ___1 but less than 2 weeks ___2 - 3 weeks ___1 - 2 months ___3 months or more ___Don't remember

41. Do you have insurance or coverage for medical care under....

	Yes	No	What part of your medical bills does it pay? Less than half	More than half but not all	All	Don't know
a. O.H.I.P.?.....	___	___	___	___	___	___
b. Private medical insurance?.....	___	___	___	___	___	___
c. Workmans compensation?...	___	___	___	___	___	___
d. Disability pension?.....	___	___	___	___	___	___
e. Some other way? - specify. _____	___	___	___	___	___	___

42. What part of the cost of drugs and medicines prescribed by your doctor do you pay out of your own pocket?

___No drugs or medicines ever purchased *(skip to 44)*
___None
___Less than half
___More than half, but not all
___All
___Don't know

43. Do you get any of this money back from your health insurance?

___Yes
___No

44. Do you have any comments, questions or opinions regarding this questionnaire or about health care in general?

_____

_____

_____

_____

DJM/80

THANK-YOU FOR YOUR COOPERATION AND TIME

HOUSEHOLD INTERVIEW SURVEY

DERIVED FROM:

A) UNITED STATES, U.S. Department of Health, Education and Welfare, Public Health Service, National Center for Health Statistics. Plan and Operation of the HANES I Augmentation Survey of Adults 25 - 74 Years, United States 1974 - 1975. Hyattsville, Indiana: National Center for Health Statistics, 1978.

HANES I survey questions used in ECHU survey

P.	Question	P.	Question
26	37	5	19
31	75, 76	3	15, 14
33	81, 82	3	16
		7	28
38	1	4	18
38	2	3	17
39	3, 4, 5, 6, 7, 8	6	20, 21, 22, 23
		7	25, 26
40	9	7	27
41	14b	8	29
19	2, 4, 5, 6	2	8, 9, 10, 11
4	30, 31	9	37, 38
45	38, 39, 37b	10	42, 41, 43

B) UNITED STATES, U.S. Department of Health, Education and Welfare, Public Health Service, Health Resource Administration, National Center for Health Statistics. Health Interview Procedure 1957 - 1974. Rochville, Maryland: National Center for Health Statistics, 1975.

HEALTH INTERVIEW PROCEDURE questions used for ECHU survey

P.	Question	P.	Question
90	11, 14	8	30
		7	24
115	4, 5	8	31, 32
91	19a	8	33

UNIVERSITY OF WINDSOR

WINDSOR, ONTARIO N9B 3P4
TELEPHONE: AREA CODE 519
253-4232

DENNIS J. MACEYOVSKI
DEPARTMENT OF GEOGRAPHY

LETTER SENT TO ALL GEOGRAPHY DEPARTMENT HEADS,
SECONDARY SCHOOLS, WINDSOR BOARD OF EDUCATION

Presently, within the Department of Geography, University of Windsor, I am constructing my Master of Arts thesis entitled "The Relationship Between Utilization of Medical Care and Distance From Health Care Facilities : An Analysis Conducted in Essex County, Ontario, 1981".

One major component of this thesis shall be a questionnaire conducted throughout Essex County, sampling 1.0 percent of the population age group 20 to 64 years (approx. 1000 people). This survey has been carefully prepared and is presently complete with a pilot study and final revisions to ensure its highest standards. This survey is highly endorsed and the results shall be used to aid in the future health planning of Essex County.

One major problem encountered at this level of research is that of financial funding. It is beyond my capability to hire outside help to ensure non-bias results for a survey of this magnitude.

My only alternative, with good intention, is as follows:

a) Prior to approaching the Boards of Education involved for a final decision, confront all geography teachers at the level 5 curriculum in all Essex County secondary schools.

b) Prepare for viewing, a small supplementary program as part of the level 5 curriculum, within the urban studies section if applicable. This would be under joint supervision and would acquaint the level 5 students with primary survey techniques and university research procedures (class-room analysis and mapping techniques). This program would be no longer than one week in duration and hopefully would start in the last half of January, 1981.

c) The endorsement of geography teachers prior to approaching the Boards of Education could help the decision-making process, knowing the feelings and views of the geography teachers involved.

UNIVERSITY OF WINDSOR

WINDSOR, ONTARIO N9B 3P4

TELEPHONE: AREA CODE 519
253-4232

DENNIS J. MACEYOVSKI
DEPARTMENT OF GEOGRAPHY

March 5, 1981

Mr. R.H. Field
DIRECTOR OF EDUCATION,
Windsor Board of Education,
451 Park Street West,
Windsor, Ontario.

Dear Mr. Field:

Presently, within the Department of Geography, University of Windsor, I am constructing my Master of Arts thesis entitled "The Relationship Between Utilization of Medical Care and Distance from Health Care Facilities: An Analysis Conducted in Essex County, Ontario, 1981".

One major component of this thesis shall be a questionnaire conducted throughout Essex County, sampling one percent of the population age group 20 to 64 years (approx. 2600 people). This survey has been carefully prepared and is presently complete with a pilot study and final revisions to ensure its highest standards. This survey is highly endorsed and the results shall be used to aid in the future health planning of Essex County.

One major problem encountered at this level of research is that of financial funding. It is beyond my capability to hire outside help to ensure non-bias results for a survey of this magnitude. My only alternative, with good intention, is as follows:

Instruct grade 13 geography students (within the urban studies section if applicable) in primary survey techniques and to some extent, research procedures. This instruction would take no more than one period of classroom time.

The responsibility of each student would be to voluntarily distribute five surveys (pre determined household destination) as close to their own home as possible. The survey would be dropped off to the home with instructions in the procedure of filling out the survey and to be picked up in three to four days time. Each survey shall be returned in a sealed envelope to ensure total privacy of the respondent.

VITA AUCTÓRIS

DENNIS JAMES JOHN MACEYOVSKI

Date of Birth : August 13, 1956

Place of Birth: Windsor, Ontario, Canada.

Parents : Joseph and Antonia Maceyovski

Sister and Brothers: Lillian Ann
Karl John
Joseph Anthony

Married : Loretta Amy Pelletier, May 29, 1982.

Education : Walkerville Secondary School
Windsor, Ontario.
SSHGD, 1975.

University of Windsor
Windsor, Ontario.
Hon. Bachelor of Arts,
Geography in Urban Studies, 1979.

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Master of Arts,
Geography, 1983.